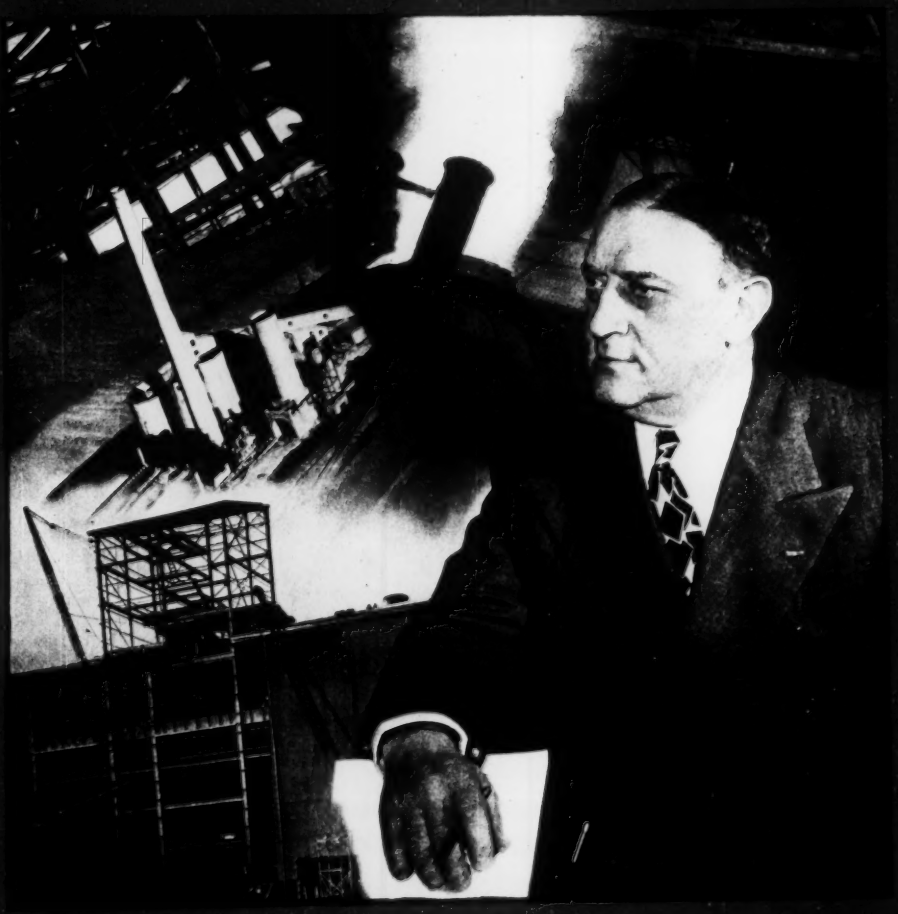
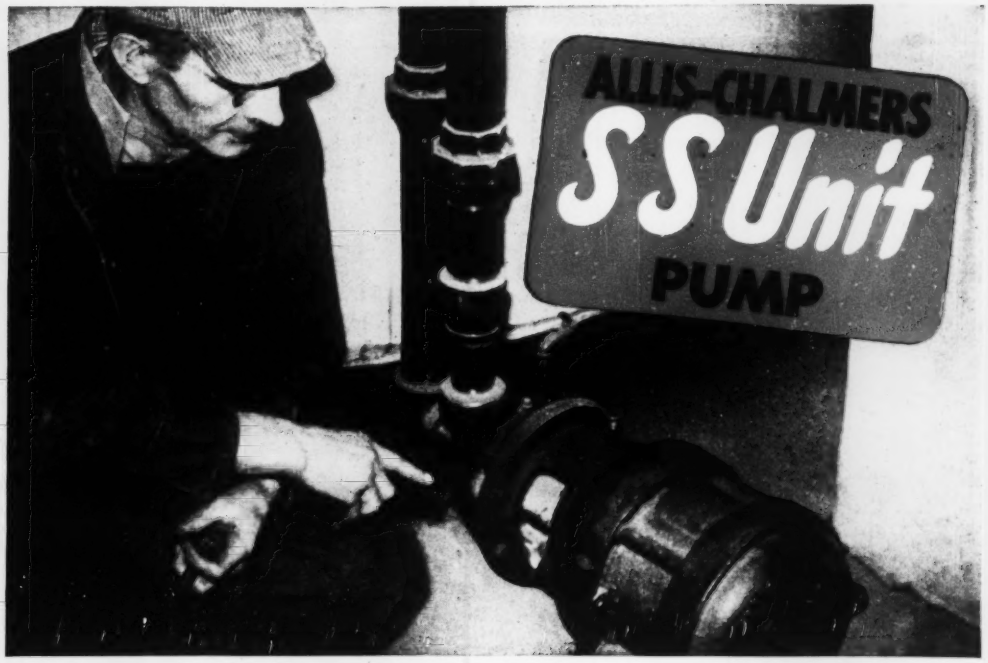
ENGINEERING NEWS-RECORD

JUNE 2, 1949



Ben Moreell—Modern plant improvement has been order of business at A. O. S. Corp.

A McGRAW-HILL PUBLICATION



7 Years ...NO REPAIRS!

SS Unit Pump on 24 hour, intermittent 7 day duty in power plant gives equivalent of 20 years normal service with *no* repair cost, *no* lost time

SINCE EARLY 1942 this SS Unit pump has been on continuous duty in a large mid-west plant. Never once in all this time has it failed to operate perfectly. Outside of normal repacking, not one cent has been spent on repair.

Here's *proof* that the extra-strong design, extra-heavy construction and extra-quality manufacture of Allis-Chalmers pumps give you dependable performance and low pumping costs.

Compare SS Unit features with any similar pump. Notice how SS Unit is compact, yet open for easy maintenance. Motor and pump are solidly bolted together using the same shaft. This design holds alignment rigidly . . . reduces vibration . . . cuts wear and tear. Every A-C pump is tested at the factory. Full rated efficiency and output are *guaranteed*.

SS Unit is one of many Allis-Chalmers pumps for industrial service. For complete information, see your Allis-Chalmers Authorized Dealer or Sales Office, or write for Bulletin 52B6059E. Also in Sweet's.

SS Unit, Texrope and Vari-Pitch are Allis-Chalmers trademarks A-2660

ALLIS-CHALMERS, 1018A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

Sold . . .
Applied . . .
Serviced . . .

by Allis-Chalmers Authorized Dealers, Certified Service Shops and Sales Offices throughout the country.

MOTORS — ½ to 25,000 hp and up. All types

CONTROL — Manual, magnetic and combination starters; push button stations and components for complete control systems.

TEXROPE — Belts in all sizes and sections, standard and Vari-Pitch sheaves, speed changers.

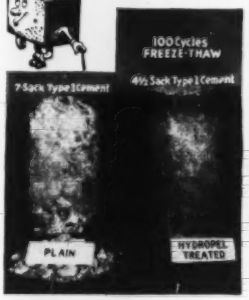
HYDROPEL®

Another Product Pioneered By Bitumuls

The Integral Waterproofing Admix for Concrete That "Tops" Them All.

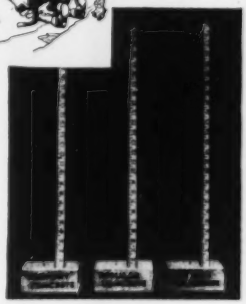
Portland Cement Concrete—accepted world-wide—receives its greatest modern improvement when HYDROPEL is added. We invite your appraisal.

Resists FREEZE-THAW
(Expansion & Contraction)



In combating freeze-thaw action, 4½-sack Hydropel Concrete outperforms 7-sack plain concrete. New England cities specify Hydropel Concrete in curbs and sidewalks where de-icing salts are used.

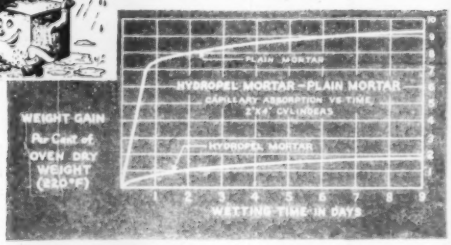
WARM & RESILIENT
(Comfort Concrete)



The rebound of steel balls shows how Hydropel "Comfort" Concrete absorbs impact. Humans and animals like its resilience and dry warmth.

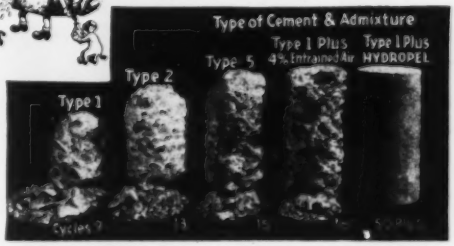
(Photo—courtesy John B. Pierce Foundation.)

IMPERMEABILITY
(Water Resistance)



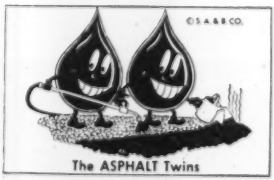
Note that Hydropel Concrete shows a water absorption of only 15% compared with untreated concrete. Absorption with Hydropel is less than ⅓ that of any other "waterproofing" additive. Hydropel Concrete is now used for hydraulic structures.

Resists CHEMICALS
(Solids—Liquids—Gases)



Hydropel Concrete gives superb protection against alkali salts. Over 50 cycles in the salt soundness test do NOT damage Hydropel cylinders—all others fail in relatively few cycles. Chemical plants prefer Hydropel Concrete.

HYDROPEL, perfected in over ten years of engineering research, offers you many exclusive advantages. Try it on a "tough" job NOW.



The ASPHALT Twins

In the West

STANCAL ASPHALT & BITUMULS COMPANY

200 BUSH STREET · SAN FRANCISCO 4, CALIF.

Los Angeles 14, Calif. · Oakland 1, Calif. · Portland 4, Ore. · Tucson, Ariz.

In the East

AMERICAN BITUMULS COMPANY

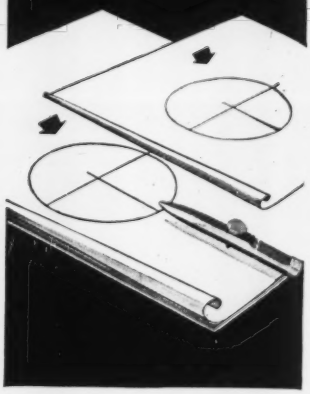
200 BUSH STREET · SAN FRANCISCO 4, CALIF.

Washington 6, D. C. · Baltimore 3, Md. · Perth Amboy, N. J.
Columbus 15, O. · St. Louis 7, Mo. · Baton Rouge 2, La.
E. Providence 14, R. I. · San Juan 23, Puerto Rico

Ask for our BITUMULS BOOKLETS. They are factual, illustrated, and helpful—a valuable addition to your engineering library.

- **Bitumuls Penetration Macadam** . . ☐
- **Bitumuls for Maintenance** . . . . ☐
- **Bitumuls Sand-Mix** . . . . . ☐
- **Bitumuls Handbook** . . . . . ☐
- **Hydropel**—Admix for concrete . . . ☐
- **Tennis Courts**—Laykold & Granstex . ☐
- **Fibrecoat**—roof and metal coating . ☐

Tracing cloth that defies time



● The renown of Imperial as the finest in Tracing Cloth goes back well over half a century. Draftsmen all over the world prefer it for the uniformity of its high transparency and ink-taking surface and the superb quality of its cloth foundation.

Imperial takes erasures readily, without damage. It gives sharp contrasting prints of even the finest lines. Drawings made on Imperial over fifty years ago are still as good as ever, neither brittle nor opaque.

If you like a duller surface, for clear, hard pencil lines, try Imperial Pencil Tracing Cloth. It is good for ink as well.

IMPERIAL TRACING CLOTH

SOLD BY LEADING STATIONERY AND DRAWING MATERIAL DEALERS EVERYWHERE

ENGINEERING NEWS-RECORD

VOLUME 142 JUNE 2, 1949 NO. 22

WALDO G. BOWMAN
Editor

FEATURES IN THIS ISSUE

France Builds a Vertical City 16

The Optical Transit Has Arrived 18

Grandstand Deck of Precast Concrete Slabs 20

DEPARTMENTS

The Construction Week 5

Editorials 7

Developments Abroad 23

Municipal Affairs 27

Men and Jobs 30

Elections and Activities 32

Engineering Schools 37

Obituaries 38

New Products 42

Construction Reports 50

Construction Business 80

THE COVER PICTURE

Heading one of the very few "big industrial companies" that is currently pushing a real construction program, Admiral Ben Morcell has not unexpectedly made the jump from a tremendously successful government executive to an equally successful business executive.

A civil engineer and construction man of top rank; first staff officer to reach the rank of full admiral; first non-Annapolis graduate to hold that rank since Annapolis was founded; Chief of the Bureau of Yards and Docks for more than eight years; founder, chief advocate and greatest admirer of the Seabees; an outstanding expert on concrete; federal emergency operator of coal mines and oil pipelines—Ben Morcell could add many honors to his name when he stepped from the Navy to private life in 1946.

But he has proceeded to add new lustre to his reputation for ability since taking over the three-fold post of chairman of the board, chairman of the executive committee and president of Jones & Laughlin Steel Corp. Under his leadership, that company is investing large amounts in rehabilitating its plant and equipment. (See news section for further details).

Number of copies this issue 44,189

Managing Editor—Eugene E. Halmos, Jr.

Associate Editors—*New York*, V. T. Boughton (senior associate), F. S. Merritt, R. H. Dodds, J. C. Bumstead; *Cleveland*, J. R. Carr; *Chicago*, H. T. Perez; *San Francisco*, N. A. Bowers; *Washington*, V. R. Smith

Assistant Editors—*New York*, T. D. MacGregor and Arthur J. Fox, Jr.; *San Francisco*, L. L. Wise.

Contributing Editor—Edward J. Cleary

Business News—Elsie Eaves, *Manager*; J. A. Mahoney, Robert F. Westervelt, M. W. Roessler, M. Wetzel, E. M. Huber

Staff Assistants—Ethel Lyon, Louise Jacobson, Helen Chase, Elly Kirsten

Domestic News Bureaus—Atlanta, Chicago, Cleveland, Detroit, Houston, Los Angeles, San Francisco, Washington. Correspondents in 71 cities in the United States, Canada and Mexico.

Foreign News Bureau—London, Frankfurt, Paris, Moscow, Tokyo, Bombay, Melbourne, Rio de Janeiro, Mexico City. *Correspondents*—Athens, Rome, Caracas, Buenos Aires, Santiago, Shanghai, Zurich, Johannesburg and 16 other cities.

ROBERT F. HOGAN
Publisher

Member ABC Member ABP

June 2, 1949 ENGINEERING NEWS-RECORD Vol. 142 22

Publication Office—99-129 N. Broadway, Albany 1, N. Y.

Executive and Editorial Offices—330 West 42nd St., New York 18, N. Y.

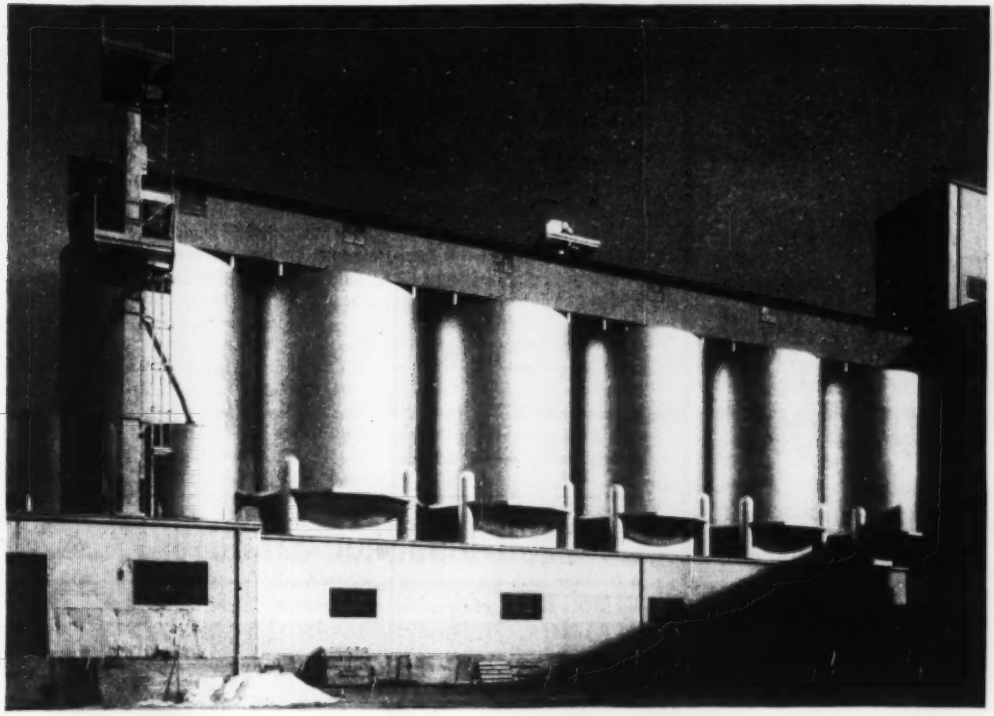
Copyright 1949 by McGraw-Hill Publishing Co., Inc. All rights reserved. Published every Thursday by the McGraw-Hill Publishing Co., Inc., James H. McGraw (1860-1948), founder; JAMES H. McGRAW, JR., President; CURTIS W. McGRAW, Senior Vice President and Treasurer; JOSEPH A. GERARDI, Secretary; NELSON BOND, Director of Advertising; EUGENE DUFFIELD, Senior Vice President; Publications Division; J. E. BLACKBURN, JR., Director of Circulation. Cable Address, "McGraw Hill New York."

Subscriptions: (1 yr., 2 yr., 3 yr.) U. S. and possessions, $6, $9, $12; Pan America, $10, $16, $20; Canada $7, $11, $14; All others, $20, $30, $40.

Address all communications about subscriptions to Director of Circulation. Price 35¢ per copy.

Please indicate position and company connection on all subscription orders.

Entered as Second Class matter October 29, 1936, at the Post Office at Albany, N. Y., under Act of March 3, 1879. Printed in U. S. A.



HORTON WELDED STEEL TANKS

provide dependable storage facilities

The six steel tanks shown above are used to store raw materials including silica sand, limestone, soda ash, fluorspar and cullet at the Glass Containers, Inc., plant at Antioch, California. They are 24 ft. in diam. by 28 ft. 6 in. high and hold 8,370 cu. ft. each. They have conical roofs, ellipsoidal bottoms and are supported on cylindrical columns. Three of the tanks are equipped with partitions, since the quantities of certain raw materials used are not large enough to warrant the use of an entire tank.

A vertical bucket-type elevator conveys the raw materials from the unloading platform to a shuttle-type conveyor over the tanks and fills them from the top. An automatic scale is located beneath each tank. The contents of the tanks flow through automatic gates on to the scales and are discharged to a conveyor belt which moves them to a skip hoist. The hoist elevates the material to a mixer on the fifth floor of the batch house (the tall structure shown at the right in the above view).

Special steel plate structures can play an important part in economical and efficient plant operation. If you have a problem that can be solved by the use of steel tanks or plate structures, write our nearest office for information and quotations.

CHICAGO BRIDGE & IRON COMPANY

Atlanta, 3 ..... 2125 Healey Building
Birmingham, 1 ..... 1520 North 50th Street
Boston, 10 ..... 1012—201 Devonshire Street
Chicago, 4 ..... 2101 McCormick Building
Cleveland, 15 ..... 2201 Guilhall Building
Detroit, 26 ..... 1506 Lafayette Building
Houston, 2 ..... 2109 National Standard Building
Havana ..... 402 Abreu Building
Los Angeles, 14 . 1511 General Petroleum Building
New York, 6 ..... 3311—165 Broadway Building
Philadelphia, 3 . . 1623—1700 Walnut St. Building
Salt Lake City, 1 . . 1512 First Security Bank Building
San Francisco, 11 . . 1220—22 Battery St. Building
Seattle, 1 ..... 1312 Henry Building
Tulsa, 3 ..... 1617 Hunt Building

Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY, and GREENVILLE. In Canada: HORTON STEEL WORKS, Limited, FORT ERIE, ONT.

Contractor trims $19,000 on a single bid

The successful bidder on more than 22 miles of highway sub-drainage for an Eastern State figured the job two ways. First, he bid the job with short section, rigid pipe. Then by figuring an alternate bid using ARMCO Corrugated Metal Pipe he was able to reduce his original estimate by more than $19,000.

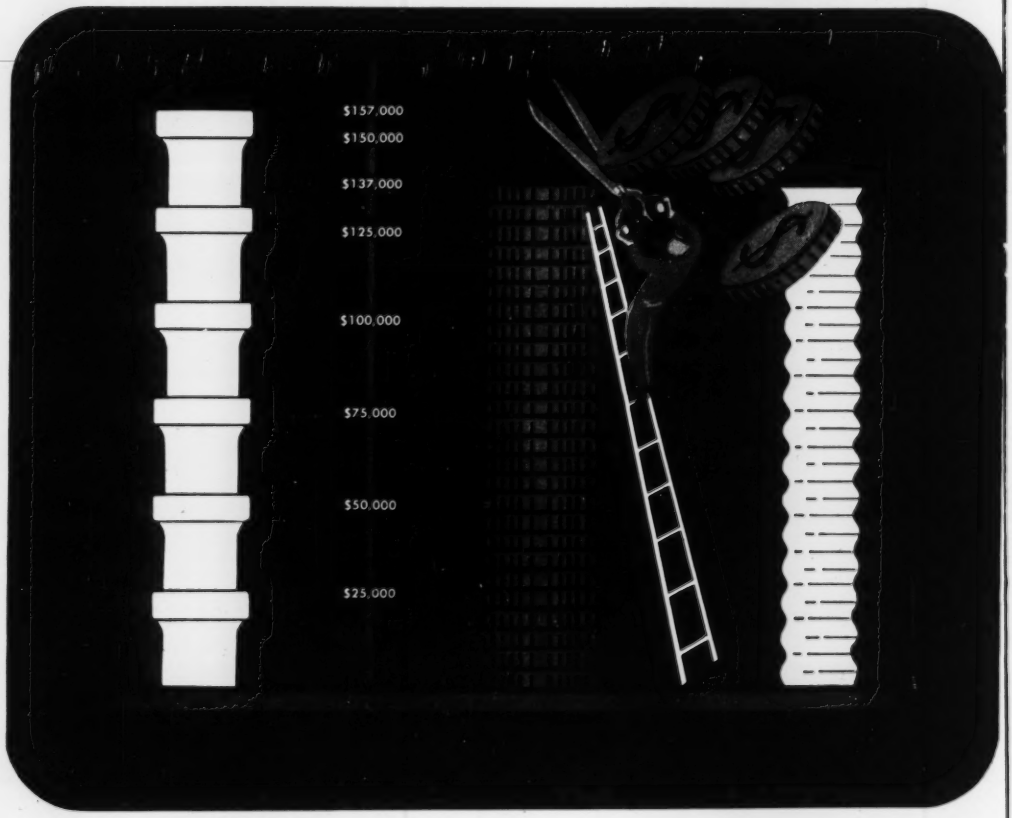
No wonder more and more experienced contractors are being awarded desirable contracts with bids based on ARMCO Corrugated Metal Pipe. Figured on an ***installed*** basis, this pipe saves money in many ways.

Although amply strong, ARMCO Pipe often weighs only one-tenth as much as more massive types. This means low handling and hauling costs. Job costs go down because unskilled labor quickly makes the installation. There is no breakage, no curing, no delay.

Individual lengths of ARMCO Pipe are supplied in any length that can be hauled or handled. No large and expensive equipment is needed for installation. A few men with a rope sling or a small A-frame can handle the largest structure. Connections are made with simple band couplers and there are no bells or massive joints requiring hand excavation.

Bid low with adequate profit by figuring that next job with ARMCO Corrugated Metal Pipe. You will find it ideal for highway, railway, airport and municipal installations. Write for complete data. Armco Drainage & Metal Products, Inc., 2835 Curtis Street, Middletown, Ohio. Subsidiary Of Armco Steel Corporation. Export: The Armco International Corporation.

ARMCO DRAINAGE STRUCTURES



THE CONSTRUCTION WEEK

TOUGH DIVERSION—Army engineers will advertise for bids June 6 on what promises to be the toughest river diversion in U. S. construction history—raising the Columbia River 17 ft. and turning it through spillway sections now being built as part of Stage 1 work on McNary Lock and Dam (ENR Sept. 30,1948,p.56). Complicating factors are the high flow (average 190,000 cfs.) and a deep channel that makes driving of steel sheetpiling almost impossible in the 240-ft. closure section.

PRIMING NEEDED?—If national unemployment mounts to 4,500,000, there may be a need for pump-priming again through federal projects—so goes the talk in Washington. Government agencies counted 3,016,000 unemployed in April, figured the total would be higher in the fall if for no other reason than that new workers are coming into the market faster than new jobs are opening up. A demonstration of how far thinking has swung—from tilts at inflation to the present tone—even the old PWA pops up in talk again as a prime priming device.

PIPELINE FINANCING—The Federal Power Commission is pushing for competitive bidding on securities to finance construction of natural gas pipelines. FPC legal staffs are now working on legislation that would give them power to pass on financing at the same time that they OK construction of a new line.

ORE FROM AFRICA—Aiming at a goal of 1,000,000 tons of ore annually, Liberia has just received a $4,000,000 Export-Import Bank loan, to finance construction of a 45-mi. railroad into the Bomi Hills, and handling and storage facilities at Monrovia. The Ex-Im loan ties in with a $3,000,000 investment program of Republic Steel Co. to develop Liberian ore production from deposits estimated at more than 20,000,000 tons of 65-percent ore.

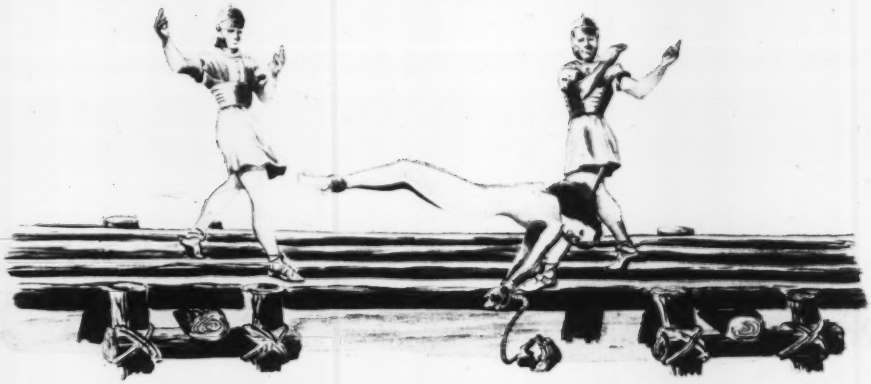
STILL IN THE FIGHT—Recent action of the Federal Power Commission, denying the Secretary of the Interior's petition to intervene in the Roanoke River proceeding (ENR April 21, p.9), did not affect the secretary's right to present evidence, file briefs, or take part in oral arguments. Controversy centers on an application of Virginia Electric Power Co., which wants to build a dam, powerhouse and reservoir near Roanoke Rapids, N. C. The Interior Department opposes the application on the ground that the Flood Control Act of 1944 approved an Army-engineer dam at the site as part of a general development program.

TURNABOUT—While the U. S. government took exception to private development of power resources on a stream in North Carolina (see above), private interests in California took exception to government work. The Fresno Irrigation District, and the Pacific Gas and Electric Co. prepared to make their arguments in Washington July 21 against plans of the Bureau of Reclamation for development of power on Kings River. FPC six months ago decided that U. S. development of the river (part of an over-all central valley development) would "best serve the public interest." PG&E, and the Fresno district, both of whom want to develop power from Kings River say they can do it better.

COUNTERPARTS WORKING—Release of counterpart funds (amounts equivalent to ECA dollar grants, supplied by local consumers in payment for goods their governments have bought) to Italy and Austria will finance additional construction work in the two countries. ECA last week released $2,000,000 in Italian counterpart funds for six land reclamation projects in Sicily; and about $30,000,000 in Austrian funds for work in the railway, electric power, mining and other industrial fields.

CEMENT MILL EXPORTS—Chances for improvement in the supply of cement for U. S. users may be seen in the exports of cement-making machinery. Allis-Chalmers is currently experiencing a small boom in exports to Europe and North Africa. Conceivably, this could mean that foreign countries will soon be able to take care of their own requirements, thus reducing their need for U. S.-made cement.

CITY HOLDS N. Y. PIERS?—Although the Port of New York Authority has submitted a new proposal to New York City for rehabilitating the city's piers, it is not expected that it will be accepted. The city is not yet ready to relinquish the political advantages stemming from control of the piers; the Port Authority will have no part of a scheme that retains any political reservations. It is probable that the Port Authority's new plan, which differs from the earlier one in that the produce market has been omitted, will be filed and forgotten.



Where concrete *Might Anger the Gods*

To appease the river gods, early Romans sacrificed a human life when a bridge was built. Even when concrete was used in later Roman structures, the spans of Roman bridges were made of wood . . . because concrete was offensive to the river deities.

Today's builders care less about pagan gods and more about sound construction . . . which is why more and more of them are doing concrete form work the "Richmond Way". Here's how the "Richmond Way" works for you—

- **A FINE PRODUCT . . . the *right* form-tying device for every section of every job . . . arriving on schedule and tagged for its exact location on the job. And you are *loaned* all working parts you will need.**
- **A SERVICE . . . our Technical Department furnishes detailed plans, estimates and instructions showing exactly where and which ties will be needed.**

IT'S GOOD FORM TO WORK THE "RICHMOND WAY"

The Richmond "package"—a product and a service—means faster, easier form erection . . . lower costs and larger profits on any job. Write us—we'll prove it! New catalog on request.

RICHMOND TYSCRUS

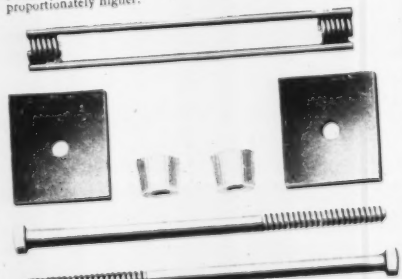
Simplest, fastest, most versatile tying device for heavy construction—6000 to 30,000 lb. safe loads. Doubles as spreader. Saves time and material in form erection and stripping, and minimizes pointing.

Standard 2-strut Tyscrus in ½"—¾" and 1" diameters. 4-strut Tyscrus in 1" and 1¼". Waterseal Tyscru (positively prevents seepage along struts) in ½" 2-strut only. Furnished in any length.

Recommended for tying medium heavy, and heavy concrete forms.

***$8.80 per 100—½"x10" two strut Tyscrus for 12" wall (6000 lb. safe load tie).**

*Prices quoted f.o.b. Brooklyn. Price from local agent's stock proportionately higher.



INSIST ON RICHMOND
. . . . AND BE SURE IT'S RICHMOND!

Richmond
SCREW ANCHOR CO., INC.
816-838 LIBERTY AVENUE · BROOKLYN 8, N.Y.

MANUFACTURERS OF ENGINEERED TYING DEVICES, ANCHORAGES AND ACCESSORIES FOR CONCRETE CONSTRUCTION

Eyes on Construction

As ALWAYS HAPPENS when clouds appear on the business horizon, all eyes turn to the construction industry. Today that scrutiny is being repaid by an optimistic picture. There are a few blurred spots around the edges, but they do not obscure the fact that a high rate of activity is being maintained.

For the first five months, *Engineering News-Record* has reported engineering construction of a little over $3 billion, up 17 percent over last year. Only two types of work register losses—waterworks and highways—and the pressure for these facilities is so great as to lend hope that they will pick up before the end of the year. Even if other types of construction fall off—industrial buildings for example—the 10 percent gain for the year, predicted several months ago, is still in prospect.

Bids for Engineering Work

BIDDING FOR ENGINEERING WORK is in the news again. Indianapolis has asked a number of engineering firms to submit sealed proposals on the engineering work required to prepare detailed maps, drawings, specifications and cost estimates for main sewers and storm-relief sewers in that city (ENR, May 19, p. 12). The work to be done is set forth in considerable detail in the call for proposals, which is also noteworthy for its requirement that proposals must be accompanied by evidence of the experience of the bidder and by a statement that he has the staff and facilities to handle the work expeditiously.

In conformity with long established practice the executive secretary of the ASCE has sent a formal protest to the Board of Public Works. That has been acknowledged by the board's executive secretary who states that the board invited bids by this method for the purpose of serving notice on all interested engineering firms that it desired to secure the stated services by contract. He added that the city intends to award the contract "to qualified engineers only, and the firm or firms submitting the *lowest* bids may not necessarily receive the award."

If usual precedent prevails, one or more engineers will submit proposals; no charges will be filed against them for thus violating the existing code of ethics; the incident will be forgotten. Then when some other agency calls for bids on another engineering job, the whole process will be repeated. It is unrealistic, and it is ineffective in maintaining good professional standards.

Competitive bidding for professional services has its unfavorable aspects, without question. They are particularly glaring if the proposals are submitted to a public agency that is primarily interested in price, and does not appreciate the importance of engineering ability and integrity in a professional service contract. But the alternate to submission of sealed proposals—the present system of competitive solicitation—also has its disadvantages. And if unscrupulous engineers or public officials participate, the opportunities for bad practices, such as shopping for bids, appear greater.

Under the circumstances, it would seem to be far better for the ASCE and the state societies of professional engineers to adopt a positive attitude toward this issue by setting up an approved system for competitive proposals that will minimize the probability of selection being made on the basis of price alone. With that protection, engineers could bid safely. Or they could refrain from bidding if the contract-seeking agency sought to sidestep the rules. The important requirement is for a code of practice that can elicit the support of engineers, which present codes, in some important respects, do not.

Highway Detours

TEMPORARY BY-PASS routes, or detours, are necessary expedients in highway construction. Yet all too often they create unnecessary confusion and annoyance to the motorist because of gross inattention to basic requirements for handling traffic.

Makeshift compromises in either the selection of the detour route, or in its construction, maintenance or marking cannot be excused on the ground that it is only a temporary facility. While in service, it is just as important as the highway project it by-passes—and even more so from the standpoint of good public relations. Moreover, anything that adds to the confusion of the motorist decreases safety. Precautions should be taken to warn traffic of the beginning of a detour—by large signs or preferably by a red stop-and-go traffic signal. The temporary route-markings should be frequent, large and foolproof, since any motorist is in strange country when he is on a detour. And common courtesy dictates the use of a prominent "end-of-detour" sign.

It should be needless to point out the necessity for constructing a detour with sufficient base strength and proper surface finish to carry traffic loads during the short term of its operation. But too many poorly constructed detours go to pieces shortly after being opened to traffic, with one of two results—excessive maintenance costs, or increased public wrath at having to use such a poor route.

Motorists are entitled to a maximum of safety and a minimum of inconvenience by better-built, better-maintained and better-marked detours.

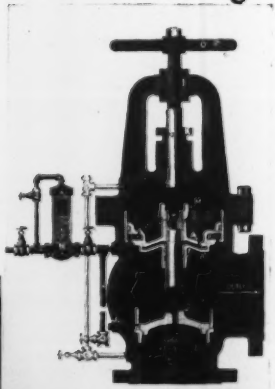
GOLDEN ANDERSON VALVES · GOLDEN ANDERSON VALVES · GOLDEN ANDERSON VALVES · GOLDEN AND

ONE of 7 Golden-Anderson non-return Valves

installed in Boiler Room of Merchandise Mart

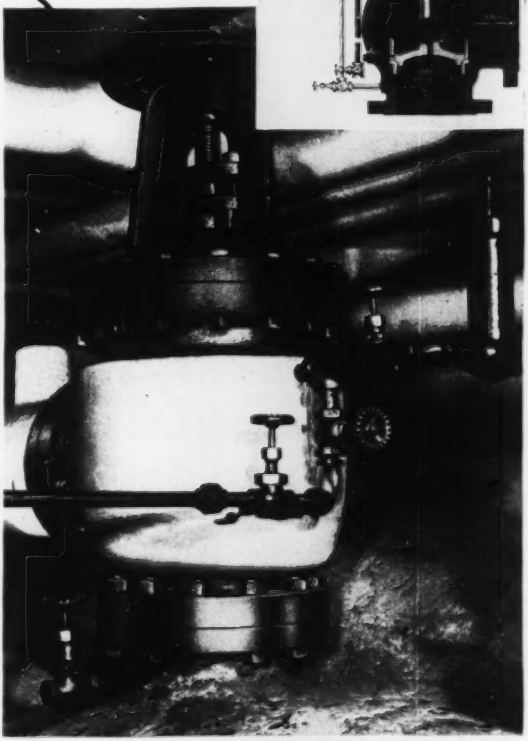
CHICAGO, ILLINOIS

G-A Triple Acting Non-Return Valve, Angle Pattern.



Golden-Anderson "Engineered Protection" Valves have protected life and priceless property in Chicago's giant Merchandise Mart since 1930.

These automatic Triple Acting Non-Return Valves cut in a boiler when pressure equals line-header pressure . . . isolate a boiler when pressure is lower than line-header pressure . . . and prevent steam flow from boiler in the event of a sudden drop of line-header pressure. While your job is still in the planning stage—let G-A engineers work with you.



GOLDEN ANDERSON VALVES · GOLDEN ANDERSON VALVES · GOLDEN ANDERSON VALVES · GOLDEN ANDERSON VALVES

GA

GOLDEN-ANDERSON
Valve SPECIALTY CO.
Keenan Building, Pittsburgh 22, Pa.

LIFE AND PROPERTY PROTECTION
VALVES SINCE 1905

ENGINEERING NEWS-RECORD

JUNE 2, 1949 VOL. 142 NO. 22

Congressional Leaders Eye July 31 Adjournment Date

"Must" legislation whittled to few big bills—Rest will wait for next session—Money is the baffling problem as Congress juggles Army and Interior works appropriations

By Vincent B. Smith

Sen. Scott Lucas walked out of the White House last week and announced that Congress would try to adjourn July 31—sine die. Interpreting the Latin phrase; it means that the law-makers don't want to set a date to come back to Washington this year. They would like to wait for the second session of the 81st Congress to bring them together next January—or leave it up to the President to call a special session in the Fall.

Speaker Sam Rayburn of the House, after a similar presidential conference, agreed that Congress might finish "must" business by the end of July. Getting their statements together later, both leaders said Congress would stay on into August to pass mandatory legislation.

In the present uncertain state of the world and the domestic economy, a six-month lay-off by Congress is hardly possible. If the legislators should adjourn sine die, President Truman almost certainly would call them back to Washington in October or November.

"Must"-list is small

The "must" list has been close-cropped—a clear indication that the President has modified his demands, at least for the present session. Appropriation bills, the North Atlantic Pact and reciprocal trade extension must be approved before Congress leaves town. A Taft-Hartley substitute also may go through. Almost a certainty is the public housing-slum clearance bill; it ought to pass in June. The rest of the big measures will have to wait until the next session.

If congressional leaders make their plans stick, many major bills affecting the future of engineering-construction will end up on the waiting list in July. Among them you are likely to find:

The Columbia and Missouri valley authority; federal aid to farm roads; the National Science Foundation, and others.

But several important measures have a better than even chance of passage before Mid-Summer. Authority for government reorganization may be granted, to let the President put some of the Hoover Commission proposals into effect—subject to congressional veto. A basing point moratorium may be enacted, to allow manufacturers of heavy products—like cement and steel—a two-year breather on delivered pricing.

Appropriation bills causes dilemma

Money is the problem that baffles Congress today. The dilemma shows up in disagreements on the appropriation bills. Outgo already is running ahead of income. The head of the congressional fiscal staff estimates a $3-billion deficit for fiscal '50—based on the optimistic guess that revenues will come within $1-billion of this year's.

Congress cannot round up the votes for any real slash of appropriations. That fact shows up in the progress of the Interior and Army civil functions measures. After the House had chopped 15 percent off budget figures for construction in the Interior bill, the Senate Appropriations Committee put them back. This committee had not yet reported the bill at the end of last week.

In the same way, the Senate added to the Army civil works measure a good part of the money that the House had tried to save by paring construction funds 15 percent. This bill at the end of the week was destined to go to House-Senate conference to work out an agreement.

Even though revenues are trending downward, Congress cannot see wisdom in granting Truman's request for higher taxes. He has not backed down on his call for $4-billion more in tax intake. Heavier imposts, Congress knows, would leave less for business to spend, just as a cut in appropriations would reduce government buying.

Canada, U.S. Plan Big Stream Clean Up

A $98,000,000 expenditure must be made by U. S. and Canadian municipalities and industries to clear up pollution in boundary waters between the two countries.

The heavy expenditure, which would cover only the section of the boundary waters including the area between Port Huron, Mich. and Toledo, Ohio, was recommended by the International Joint Commission in an interim report submitted to the governments of the United States and the Dominion of Canada.

Studies were started more than two years ago and a memorandum to the commission from the two countries for a survey of pollution conditions and recommendations for remedying them. The commission report makes it clear that the figures are tentative, pending completion of the assembly of the vast amount of data gathered.

In detail the commission recommends tentatively that municipalities on the U. S. side spend $68,000,000 and on the Canadian side $14,000,000 for remedial measures. U. S. industries will need to spend $13,000,000 and Canadian industries $3,000,000 in addition.

In other sections of its report, the commission recommended that it be empowered to formulate a water pollution abatement program for the St. Marys River area and Lake Huron to Lake Erie waters in consultation with federal, state, provincial and municipal authorities.

Noting that many municipalities in the area are unable to go ahead with plans because of financing difficulties, the commission suggests that definite plans be formulated for such financing work. The commission would supervise through a board the formation of plans and the general application of any rules for abatement. Such a board would offer technical services furnished by the two governments.

NEWS BRIEFS

Research Center — In DETROIT, General Motors has just let the construction contract for its multi-million dollar Technical Center (ENR Feb. 7, 1946, vol. p. 229). This 350-acre research layout came off the drawing boards in July, 1945. Bryant and Detwiler Co., Detroit, will start work in June on a three year construction timetable. The 662,000 sq. ft. of office and laboratory space were designed by Smith, Hinchman and Gylls, Inc., architect-engineers, Detroit.

Alaskan Wood Pulp—Construction will start this spring on a $33,000,000 cellulose wood pulp mill near KETCHIKAN, ALASKA, for Ketchikan Pulp & Paper Co., an American Viscose Co. subsidiary. Morrison-Knudsen, of Boise, is expected to do the construction. First job of the three-year project will be to build a dock for unloading building materials and equipment.

West Coast Cement — McNeil Construction Co. of Los Angeles will build a $15,000,000 cement mill near PALM SPRINGS, CALIF. Samuel A. Guiberson is the owner; his holdings include 25,000,000 tons of limestone.

Earthfill Dam—The Bureau of Reclamation recently awarded a $2,700,000 contract for Platoro Dam on the Conejos River—high in the Rocky Mountains of southern COLORADO—to Hinman Brothers Construction Co., Fort Collins, Colo. The 135-ft. high earthfill dam will create a reservoir of 60,000 acre-ft. capacity, with crest elevation at 10,042 ft. above sea level. It will be the largest man-made lake at this height in the United States.

Long Island Housing — A new 1,114-unit, FHA-insured garden apartment community is under way in AUBURNDALE, QUEENS, N. Y. This $10,000,000 project is being built by Jack Match and Arnold Holzer Associates.

Atom Research Facilities—Atomic Energy Commission has announced a $19,000,000 construction and improvement program for Oak Ridge, Tenn. About $10,500,000 will be for new research facilities and about $4,200,000 for renovation of existing ones. The remainder will be for yard work and service facilities. The program will cover two and one-half years, involving construction of 205,000 sq. ft. of new buildings, renovation of 15 structures, and improvement and extension of existing roads and utilities.

International Airport—Another preparatory step for DETROIT International Airport has been taken; the Detroit common council has agreed to sponsor a request for federal aid. Now CAA must negotiate with the State Department for a treaty with Canada, as the proposed port will be located near WINDSOR, ONTARIO.

Correction—Several lines of type went astray from p. 10 of the May 19 issue, causing two entirely unrelated items to merge into a single mis-statement. Morrison-Knudsen Co. has no business with Pan American Airways in Boston; it did win a $2,846,000 award for a CAA airport in Fairbanks, Alaska. No award has been made on the Boston job; Governor Dever has simply stated that funds would be forthcoming for the hangar building.

SHEET PILE CELLS divert the Monogahela River at Morgantown, W. Va., where the Corps of Engineers will build a new dam and lock. This navigational structure will replace two existing dams and permit greater barge traffic from West Virginia coal fields to Pittsburgh's industrial areas. Dravo Corp's contracting division is doing the job.

Col. F. R. Lyons dies; Remagen Bridge engineer

Col. F. Russell Lyons, who commanded a regiment on Alcan Highway construction and later was the senior engineer officer on the Remagen Bridge operation in Germany, died May 14 in Kent Hills, Me. He was 58 years old.

An engineer officer for 32 years, "Rusty" Lyons had been retired for service disabilities on Oct. 31, 1947. He had entered the service in the first World War after three years with the Bureau of Public Roads following graduation from Rensselaer Polytechnic Institute in 1914. Between wars, he served various tours of duty at Ft. Belvoir, in the War Department at Washington, and in the various service schools. The beginning of World War II found him in command of the 306th Engineers on the Alcan Highway in Alaska. He later commanded a sector of the highway and from there went to the European Theater.

When the Remagen Bridge was captured, Col. Lyons was engineer of the III Corps of the 1st Army. He immediately moved his headquarters to the site and undertook its repair. An ENGINEERING NEWS-RECORD account (March 29, 1945) reported the situation as follows:

"Moreover, by the evening of the second day the Remagen bridgehead was a substantial and firmly established one, thanks to on-the-cuff planning and high pressure field work by the Corps Engineer and the troops under his control. By that time he had ferries operating, his first pontoon bridge was finished, he was well along on a second and in addition he was getting underway major repairs to the steelwork of the railroad bridge which had been badly damaged by a demolition charge."

By one of the most unusual coincidences of the war, Col. Lyons was the only engineer officer in the Army who had any previous first-hand knowledge of the Remagen Bridge. He had been present at the dedication ceremonies for the bridge in 1918 and subsequently, as local commander of the Army of Occupation, had the structure in his charge. He had at that time obtained and sent to Washington complete plans of the bridge.

It was one of the great regrets of Col. Lyons' full and exceedingly useful life that the engineer troops that he concentrated on the Remagen Bridge repair had not been able to save it from collapse, even though he knew at the beginning that success was a 100 to 1 shot.

Defense housing to cost $623 million

For the first time in history, Congress has received a single, unified request for appropriations to meet the fiscal 1950 housing and public works requirements of all the armed services. The bill of particulars issued recently listed projects totaling $623 million.

Secretary of Defense Louis Johnson termed the comprehensive program a landmark in the process of unification. In addition to $25,000,000 for emergency projects and a little more than $14,500,000 for a special weapons project, the proposed legislation submitted to Congress would allocate nearly $585 million in this way:

Inside the continental U. S.—Army, $69,889,700; Navy, $98,493,300; Air Force, $175,540,501.

Outside the continental U. S.—Army, $81,177,700; Navy, $89,215,501; Air Force, $69,275,980.

Totals under these categories come to: Army, $151,067,400; Navy, $187,712,801; Air Force, $244,816,481.

Some searching questions certainly will be directed at the cost limitations that the national military establishment has set up for housing: $16,500 on family dwelling units within the United States and $33,000 on those built overseas. High-cost family housing for the armed services has received criticism from both Congress and the Hoover Commission. The latter reported that houses for generals in Alaska had cost $75,000. Pentagon officials last week said that houses for high-ranking officers could be built in Alaska under the proposed $33,000 limit.

Actually the Defense Secretary's list gathers up all military construction requirements accumulated since the 1948 appropriations were approved. The 80th Congress delayed those appropriations and then rushed them through near the end of the 1948 fiscal year. There were no separate military construction appropriations for fiscal '49.

Little of a controversial nature is included in the present bills. They probably can be molded to committee measurements pretty quickly, in the opinion of Washington observers.

Military mapping to be coordinated

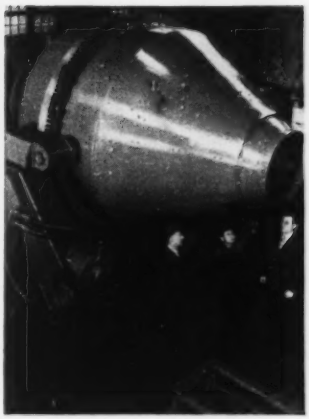
Secretary of Defense Louis Johnson last week approved a plan for coordinating the mapping and charting activities and related photographic work in the national military establishment.

Under the plan, a photographic and survey section of the Joint Intelligence Group, Joint Staff, will coordinate photography, geodesy, hydrography, photogrammetry, cartography, topography, mapping, charting, surveying, terrain models, photo interpretation, compilation, reproduction, and allied related intelligence functions.

Heretofore, the Departments of the Army, the Navy, and the Air Force have conducted independent photographic and mapping activities. The Joint Intelligence Committee, composed of the intelligence chiefs of the three services and the Joint Staff's deputy director for intelligence, has utilized information from the three departments.

The new photographic and survey section now is authorized to forward its decisions to appropriate agencies of the national military establishment without reference to the Joint Intelligence Committee, except on matters of major policy, and to communicate directly with civilian and nonmilitary governmental agencies.

The photographic and survey section will formulate requirements and prepare plans of joint interest covering the production and distribution of various maps and charts required for military operations and training and will establish project priorities. It will maintain plans and project priorities on a current basis, will revise plans and priorities in keeping with new developments, and will provide guidance on operating schedules to be followed.



SIX-YARD MIXER—T. L. Smith Co., of Milwaukee, has sold this $20,000, 6 cu. yd. concrete mixer to Camden Lime Co., Camden, N. J., ready-mix firm. The second such machine will go to Albuquerque (N. M.) Gravel Products Co.

The new section is authorized to recommend use of the services of other federal photographic and surveying agencies and of commercial firms; to promote standardization and uniformity in materials; and to cooperate with civilian agencies in standardization.

The photographic and survey section will be composed of a commissioned representative from each military service and of civilian assistants designated by the Joint Staff.

Steel profits pay for plant expansion

Driving hard to maintain its position in the highly-competitive steel industry, the Jones and Laughlin Steel Co., of Pittsburgh, plowed back nearly four-fifths of its 1948 income for plant improvements and expansion.

Detailing the company's activities at a recent stockholders' meeting, Adm. Ben Moreell (see p. 2 this issue), company president, outlined a vast construction and rehabilitation program as the reason for slimming dividends on stock.

He said that out of a net income of $31,000,000 in 1948, $24,000,000 was put back into the company's plant and equipment; only $6,800,000 went to stockholders in the form of dividends.

The expenditures on the business were a part of a four-year, $106 million program of construction which has been approved by company directors. "While some real improvements . . . have been made at our Pittsburgh and Aliquippa plants," Adm. Moreell said, "no major additions have been made to steelmaking equipment since the installation of the Soho furnaces at Pittsburgh 32 years ago."

He summarized the need for new work as dictated by:

"Changes in steelmaking practices to permit better use of available ores; ability to provide more types of steel for the better use of the 96-in. strip-sheet mill at Pittsburgh; reduction of costs and improvement of quality—in a word, the improvement of the efficiency of our operations."

The improvement program will include: increased open hearth facilities at the Pittsburgh works; improvements to mining methods and equipment at company owned coal and iron-ore fields; new coke ovens at Pittsburgh; completion of rehabilitation at the Otis works, near Cleveland; and considerable work on facilities and equipment of various subsidiary companies.

DETROIT DAM will be built at this point, left, on the North Santiam River, Ore. Cribbing for a temporary bridge is being installed. A tunnel will be drilled through rock to divert the river while the dam is being constructed. Meanwhile, a new bridge, right, is underway for the relocation of Santiam highway, made necessary by the dam construction.

Northwest AWWA hears of service during 'quake

Continuation of water service under disaster conditions is dependent on a well organized and well equipped maintenance staff. This was the theme of a review of the recent Northwest earthquake and the flood of May-June, 1948, at the recent American Water Works Association meeting in Bellingham, Wash.

W. C. Morse, Seattle water superintendent told the Pacific Northwest Section that in the first 20 minutes after the earthquake his system lost 6 mg. of water through leakage. At the end of that period, pressure rose as alert crews closed valves that isolated the offending services without taking water from good lines. In 4 hours, normal service was resumed.

W. A. Kunigk, water superintendent of Tacoma, Wash., reported an unusual phenomenon observed in his system at the time of the earthquake. A surge was set up in distribution lines so the pressure varied far below and above normal. Had the earthquake been of greater intensity or longer duration, this may have caused severe damage, he observed.

Most dramatic disaster story was told by Lloyd C. Ajax, senior sanitarian, Chelan County health department. Ajax told of the three week struggle to keep the Wenatchee, Wash., filter plant in operation during the 1948 flood. Maintenance crews with the aid of a Bureau of Reclamation diver from Grand Coulee Dam held shut-down time to 48 hours.

Newly elected officers of the group are: Chairman, B. C. Gosney, water superintendent of Auburn, Wash.; vice-chairman, Elmo James, water superintendent, Spokane, Wash.; national director, Prof. Fred Merryfield, Oregon State College; and secretary-treasurer, O. P. Newman, secretary, Boise, Idaho Water Corp. The Fuller award went to R. A. Duff, water superintendent, Medford, Ore.

Fish interests threaten to delay Pelton Dam

Threat of court action by the Oregon State Fish Commission to prevent construction of the proposed $12,000,000 dam in the Deschutes River in central Oregon has upset plans of the Northwest Power Supply Co. for an early start on the project.

This latest turn in the war between fish and power interests over dam construction in the Pacific Northwest developed at a hearing before the Oregon state hydroelectric commission on the application of the power company for a permit to construct the 150-ft. high Pelton Dam to provide power for the central Oregon area.

The fish commission has invested $70,000 in a hatchery above the damsite and commission spokesmen maintained there is no place below the dam where a hatchery could be built to replace the one which construction of the dam would destroy.

FPC publishes cost data on steam-electric plants

Construction and operating costs for 200 of the nation's most modern steam-electric generating plants were published last week in a new volume of the Federal Power Commission. Entitled "Steam-Electric Plant Construction Cost and Annual Production Expenses," the publication gives figures collected during the ten-year period, 1938-47.

Installed capacity of the 200 plants, located in 40 states and the District of Columbia, represents approximately 65 percent of the nation's total electric utility steam generating capacity.

In the FPC book, individual data sheets give information on each of the 200 plants. A special section summarizes operating data of the plants for 1947. In addition, the publication's index of plants includes references to engineering articles—published in various technical journals—on many of the plants listed.

For a year-by-year account of operating results, the book furnishes data on installed generating capacity, net generation, peak demand, cost of plant, production expenses, and types, quantity and cost of fuels used.

Data in the volume were compiled from annual reports and power system statements filed with the FPC by electric utilities. Copies may be obtained from the Federal Power Commission, Washington 25, D. C., for $3.00. The order number is FPC S-72.

Army gives its blessing to New York Narrows span

The suspension bridge proposed to span the Narrows in New York Harbor was given Army approval last week. Word was released by Acting Secretary of the Army Gordon Gray that he and Maj. Gen. Lewis A. Pick, Chief of Engineers, had approved Triborough Bridge and Tunnel Authority plans for the $78,000,000 structure (ENR July 29, 1948, p. 8).

The bridge would have the world's longest suspended span, 4,620 ft. Connecting Brooklyn and Staten Island, it would be a major link in New York's system of belt highways and form a direct route from New England and Long Island westward, bypassing the city's congested streets especially those of Manhattan.

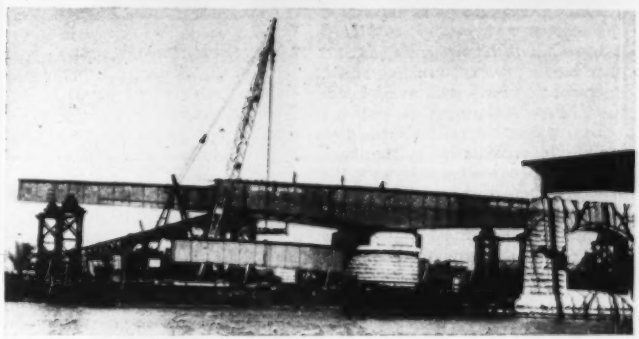
Officials of the TBTA claim that only the lack of financial arrangements now stands in the way of an early start on the project. It is expected that an attempt to raise funds by a bond issue will await completion of the authority's Brooklyn-Battery Tunnel, a year from now. After that, it would take at least three years to build the bridge.

Newark Airport to have $20 million runways added

A four-runway plan for Newark (N. J.) Airport, with a peak-hour capacity of 120 planes—equal to that of New York International Airport at Idlewild—was released last week by Joseph M. Byrne, Jr., vice-chairman of The Port of New York Authority. Open parallel runways, to cost $20,000,000, will be aligned in two directions at about 90 degrees to each other, and will give coverage under any wind conditions.

At the same time, Mr. Byrne disclosed that plans are proceeding for the acquisition of 800 acres of land in Elizabeth, N. J., for the enlargement of the airport, and studies for expansion of the present terminal building are nearing completion.

The authority has filed a plan with the Civil Aeronautics Administration preliminary to the placing of fill for the first new runway in the near future. A Federal grant of $1,075,000 will be applied to the cost. Mr. Byrne also said "Following tests which were made of the Newark Airport subsurface, we have determined that runways can be built there to handle transport planes of 150,000-lb. gross weight. The runways will range in length from 6,000 to 9,000 ft. The pattern provides a terminal area which can be approached by surface roadway.



VICTORY BRIDGE is the new Washington, D. C., highway crossing which extends South Capitol Street over the Anacostia River and connects the Navy Yard area with major arterials serving the rapidly developing Southeast section of the city. This 3,250-span has a design load of H20-S16. It is constructed of continuous steel girders with suspended spans and a swing span allowing a horizontal river clearance of 150 feet on each side of the pivot pier. Designed by Modjeski and Masters, Harrisburg, Pa., it is scheduled for completion by next November. Super-structure is now being emplaced by American Bridge Co., of Pittsburgh, Pa. Total cost of the structure is estimated at $5,400,000. Bottom photo shows the last piece going into the swing span.

Recommend improvement of 16 Arizona highways

Recommendation for construction totaling $9,180,000 for improvement of 16 Arizona highways have been made to the state highway commission by the Arizona Statewide Highway Planning Committee.

The commission will have about $9,000,000 to spend for new construction after the start of the fiscal year, July 1, according to W. C. Lefebvre, state highway engineer.

Of the anticipated total, $5,100,000 will be federal aid money. In addition to the new money, there will be a carryover fund of several million dollars.

In the allocation of funds, the commission will follow the scientific highway sufficiency rating system which for several years has served to guide highway expenditures. The system spotlights sections where improvements are needed most.

Pacific Northwest ASCE sections form conference

The Pacific Northwest Conference of the American Society of Civil Engineers was activated at a recent meeting in Spokane, Wash. It includes the Oregon, Montana, Spokane, Seattle and Tacoma sections of the society. The conference was formed to encourage cooperation between sections in the Northwest and to sponsor annual meetings of ASCE members in that area.

In addition to a business meeting, the controversial Columbia Valley Authority proposal—and its states' rights ramifications—was debated by J. K. Cheadle, Spokane attorney, and R. G. Tyler, University of Washington professor.

Officers of the conference elected at the meeting are: President, J. L. Stackhouse, Tacoma; vice-president, Thomas H. Campbell, Seattle; and secretary, F. D. Langdale, Tacoma.

PERSPECTIVE . . .

States force modernization of codes

Massachusetts, New York, Wisconsin and Maine furnish ample evidence that if cities won't bring building codes up to date, states will step in. Behind these actions is the belief that outmoded local codes are the bottleneck in home construction. The National Association of Housing Officials reports these recent instances of state intervention:

Massachusetts passed a law in 1947 giving the state board of standards power to set forth alternatives to materials and methods called for by local building codes. Under this law, even though builders' plans do not comply with the local code, a municipal building inspector is compelled to issue a permit if the plans comply with the state's alternatives.

Builders or manufacturers petition the board of standards to have their materials or methods of construction approved as an alternative to those required by local codes. The board holds hearings on the proposed alternatives. If it finds the proposed methods or material sound, it draws up regulations permitting use as an alternative throughout Massachusetts, and all cities and towns are notified.

New York this Spring adopted a state-wide building code law. It provides for creation of a five-member commission to formulate uniform state-wide building regulations for municipalities having local building rules. However, the regulations drawn up by the commission may be rejected by any city.

Wisconsin is now considering a bill that would provide state regulation of dwelling-house standards by the state industrial commission —the body that now regulates industrial building on a state-wide basis. Under terms of the bill, a dwelling that conforms to the state standards could be erected anywhere in the state without regard to provisions of any local building code. Local zoning laws would have to be observed, however.

In Maine, a bill to create a board of standards similar to that in Massachusetts has been introduced in the legislature. However, the board would have authority over all building, as in Massachusetts.

Woodside Houses open, 1st non-subsidy project

The first public housing project in the United States to be operated without a cash subsidy from any source was opened May 23 when 27 families started to move into Woodside Houses, a New York City Housing Authority project in Queens. It is expected that the project will be fully occupied by November.

This a part of Mayor O'Dwyer's program of housing without cash subsidy, under which 20 projects with a total of 19,900 apartments are being built.

Less than one year ago the site of Woodside Houses, bounded by 51st Street, Northern Boulevard, Newton Road, 49th Street, and 31st Avenue, was vacant land; today it is occupied by 20 buildings which, when completed, will contain 1,357 apartments. The rents, averaging $16.39 per room will be sufficient to pay operating costs as well as to meet interest and amortization payments on the authority bonds sold to pay for the project.

Architectural and decorating standards for Woodside Houses are higher in certain respects than those which apply in the authority's subsidized projects. Flooring at entrances, interior hardware and electric fixtures, are among the features in which improvements have been made at Woodside Houses. A fabric wall covering is used in the corridors instead of the tile found in the subsidized projects.

The architects are Walker, Foley & Smith. The contractor is Geo. F. Driscoll & Moccia Const. Co. Their bid was $7,843,784.

Anchorage apartments to be Alaska's first FHA homes

A 67-unit multiple-dwelling project at Anchorage has received the first mortgage-insurance commitment under the new Alaska Housing Act (P. L. 521), FHA Commissioner Franklin D. Richards announced recently.

Known as Turnagain Arms Apartments, the project is to be constructed by the Turnagain Co., Inc., of Anchorage. A Seattle firm will make a mortgage loan of $660,900. Rentals are set at typical Alaska levels, $105 to $150 a month, including heat. Alaska rents reflect higher costs than in the states for construction and services.

Commissioner Richards reported also that another builder, the Pacific Development Alaska Corp., had filed formal application for a 264-unit apartment project at Anchorage. Preliminary examinations are being made of two additional Anchorage projects, one of 46 units and a second—on the military reservation at Ft. Richardson —of 440 units.

Raymond M. Foley, administrator of the Housing and Home Finance Agency, at the same time announced that he soon will send a small task force from his office to Alaska to work out procedures with the Alaska Housing Authority under which a $15,000,000 revolving fund would be used to increase the supply of housing in the territory.

Discuss fire hazards of modern buildings

Modern building construction using blank windowless walls presents a definite fire hazard and unusual problems for the fire fighter, Anthony J. Mullaney, chief of the Chicago Fire Department, told members of the National Fire Protection Association meeting in San Francisco May 16-19.

Mullaney called upon engineers and architects to consider fire precautions carefully in the design and construction of such buildings, and to provide access panels and automatic fire fighting devices in every building.

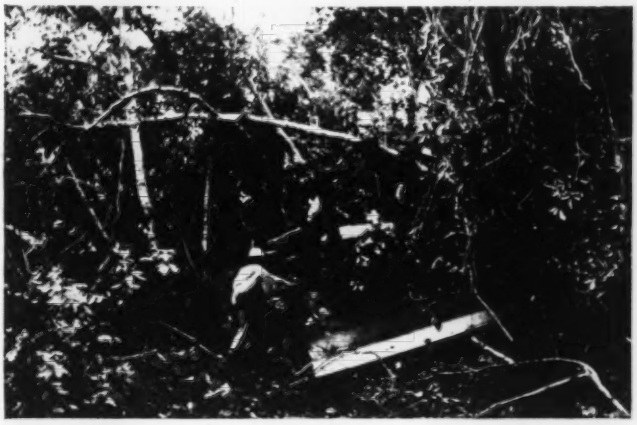
Mechanical ventilation, required in windowless buildings, may fail in a fire, causing explosions and backdraughts. Products of incomplete combustion—carbon monoxide, unstable sulfur and nitrogen compounds, and smoke tars—are heated beyond their ignition temperatures, but do not burn because of the lack of oxygen. When oxygen enters, the gases explode, causing danger to firemen and others.

In case of fire electricity may fail, leaving such buildings in total darkness. In addition, blank walls prevent easy detection of fire.

Automatic sprinklers, automatic fire detection devices, exhaust fans, fire stops in shafts, and other devices should be required in every building of this type, Mullaney said. Construction materials should be fire-resistant, and vertical shafts should be carefully designed and constructed so they do not aid in spread of fire.

Enameled steel exteriors also contribute to fire-fighting problems, since they are difficult to breach, and may hide a fire between them and the wall studs. Radiant heating coils, when opened, may send scalding water on firemen. Reinforced concrete slabs also present a serious hindrance when they must be breached.

RANDOM LINES . . .



. . . describing the part engineers play in Mexico's war on foot and mouth disease.

Editors' Note: The joint U. S.-Mexican effort to stamp out foot and mouth disease south of the border has received little attention from engineers, yet engineering plays a vital part in the campaign. The following information, submitted by Paul C. Brown, engineer for the Bureau of Animal Industry, gives a good picture of the work involved.

Among the odd activities in which engineers find themselves involved, the oddest may be their connection with the two-nation effort to eradicate foot and mouth disease in the Republic of Mexico.

At first glance a problem purely for the veterinarian, the chemist and the animal husbandry experts, the campaign actually is as vitally concerned with engineering.

The engineering is of a type fairly normal to any Army Engineer command in wartime—construction of roads, the destruction or burial of animals destroyed, construction and maintenance of communication lines and construction and maintenance of various buildings and centers. But, like an Army maneuver, the entire campaign would certainly be more difficult and perhaps impossible without such assistance.

Foot and mouth disease first appeared in Mexico late in the fall of 1946. Caused by a filtrable virus, and one of the most contagious animal diseases known, the malady has not yet occurred in the United States since an outbreak in California in 1929. Human beings are only slightly susceptible to the infection, but any cloven-footed animal may be affected.

The presence of the infection in Mexico is a constant menace to U. S. livestock, and a joint commission was set up in 1947 to administer funds provided by both the Mexican and the U. S. governments to see what could be done about controlling or eradicating the disease. By the time the campaign got into full-scale operation, the disease had spread to the central portion of Mexico and into sixteen of its 28 states.

Considerable excavation needed

The immediate remedy at the start of the program was simply slaughter and burial of the infected animals, since no known cure exists that will restore the infected animals to full health. This program involved some very large engineering operations until it was finally modified (as Mexico could not stand the economic shock of such large scale slaughter) in November 1947. Among the problems were these: The estimated requirement is about 3 cu. yd. of excavation to bury one cow. Thus when the rate of slaughter reached 50,000 animals per week, about 150,000 cu. yd. of excavation was necessary each week. During the height of the slaughter campaign, about 150 pieces of heavy excavating equipment were used in central Mexico, including tractors, bulldozers, carrying scrapers and dragline excavators. Since some of the work was accomplished at widely separated points, much of it in inaccessible territory, this item alone was an expensive undertaking.

After modification of this program to one of inspection, vaccination and quarantine with limited slaughter, this large amount of excavation was no longer needed. However, the engineers were required to construct jeep trails along the quarantine lines—a work which produced a by-product of passable roads in hitherto inaccessible territory, and which involved the improvement of many roads and trails.

Quarantine line fenced

Another field construction item is that of fencing a portion of the northern quarantine line. This fence, about 125 miles long, extends from Tamiahua on the Gulf Coast to Tamazunchale on the Laredo highway. A portion of this fence is through jungle-type country, some of which has had little previous traffic, even on foot. It was necessary to use bulldozers in clearing away jungle growth and in preparing trail for use by vehicles transporting fencing materials.

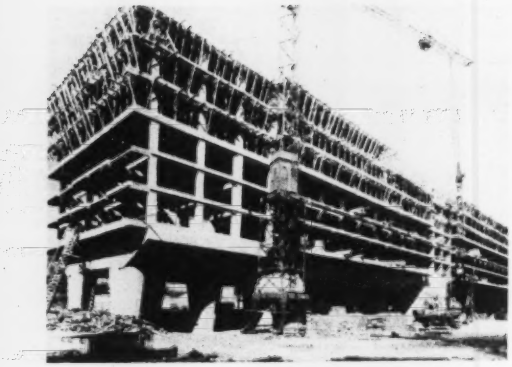
There are other field construction projects, including temporary offices and living quarters, shops, provision of water supplies and holding corrals for cattle used in vaccine production.

Considerable construction has been necessary in and adjacent to Mexico City. At Rancho San Jacinto, in the north central part of the city, where the warehouse, procurement, and engineering offices and other buildings are located, it has been necessary to make additions and improvements to existing structures as well as build several new units.

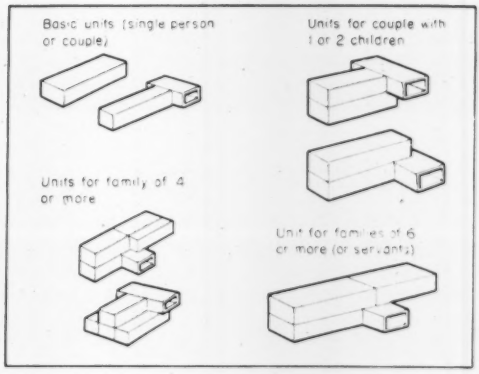
Radio antenna towers have been erected, fencing, water supply, electrical installations, drainage, roadways, surfacing, together with other incidental improvement works, are being completed.

The engineering division is also responsible for the equipment fleet which now consists of well over 1,000 vehicles ranging from jeeps and passenger cars to 20-ton tractor-trailer units. In addition, there are 50 to 75 items of other engineer construction equipment. Also in the matter of transportation is the operation and maintenance of a motorboat fleet.

The chief of the Division of Engineering in Mexico is G. E. Mitchell, United States Department of Agriculture employee, formerly with the Division of Engineering of the U. S. Forest Service at San Francisco. Clyde V. Ellis is assistant engineer and Thoburn L. Thompson is administrative assistant.



Concrete frame raised above ground . . .


Basic units (single person or couple)
Units for couple with 1 or 2 children
Units for family of 4 or more
Unit for families of 6 or more (or servants)

Plus prefabricated apartment units . . .

France Builds

(McGraw-Hill

A 17-STORY apartment building, in the form of a fantastically oversize filing cabinet on stilts, is rapidly nearing completion at Marseilles, France. The apartments take the place of the cabinet's drawers.

Product of the sometimes eccentric pen of famed French architect Le Corbusier, who calls it his "Vertical City," the structure incorporates in its 17 stories provisions for a complete community of 1,800, including shelter, food, clothing, recreation, education and hospitalization.

The building, says Le Corbusier, results from a 25-yr. search for a structure that would combine his ideas of living with an answer to the social challenge created by the mushrooming cities of the industrial age.

One-quarter mystic, one-quarter philosopher and the remainder architect, Le Corbusier (his adopted name means "The Crow") has long believed that over-centralization of modern cities is directly responsible for much of the "rootlessness, restlessness, boredom and frustration of modern society, and indirectly responsible for many current wars and revolutions."

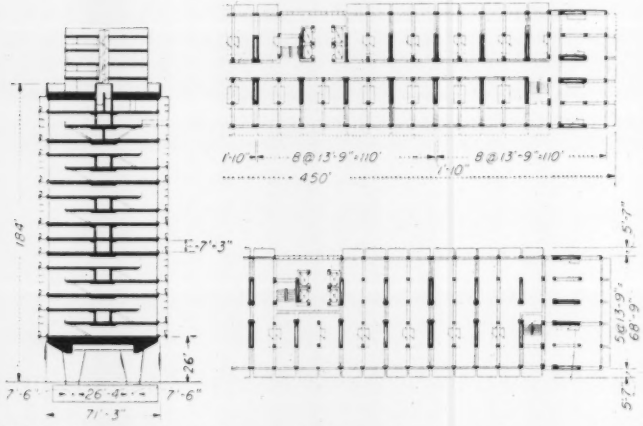
"The 20th century city dweller," he points out, "is exiled from three of the deepest sources of man's strength —nature, privacy and the community. The suburb represents an attempt to repatriate this exile. It fails miserably. It restores to man a tiny plot of nature, but it isolates him more hopelessly than ever from the community. He also pays through the nose for his few square yards of grass. He dozes away years of his life in a stuffy commuter train. And the suburb fails to offer any effective formula for the streamlining of the care and training of children."

But, according to the architect, the Vertical City answers all these problems. Ground coverage is restricted to only 10 percent of a 7.2-acre plot. The rest of the site will be transformed into a park. The height of the building is limited to 184 ft., so that it will not lose touch with the trees and the earth. The structure is propped up on stilts, to give the passerby an uninterrupted view of the park around and underneath the structure.

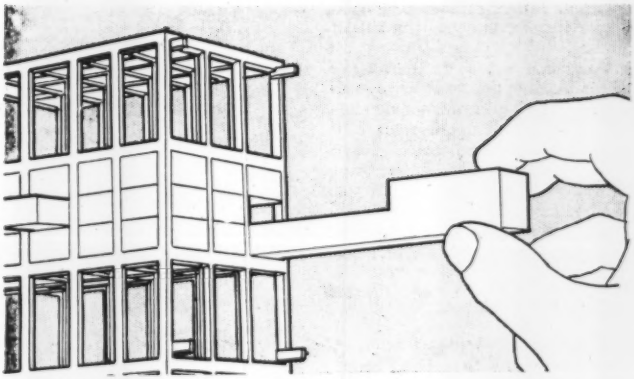
"It preserves the spatial freedom of the country," Le Corbusier says. "Why should our feet and our vision be doomed eternally to trudge along the narrow ruts of our vehicles?"

Community facilities incorporated

The building is 450 ft. long, 71 ft. wide and 184 ft. high. Oriented to face north and south, so that all apartments have sunlight at some time during the day, it "floats" 26 ft. above ground level on 36 tapered, hollow concrete piers. The first floor—a reinforced concrete mat, 9½ ft. thick—tops these piers and supports the 16-story skeleton of hollow concrete columns and girders, which form a rigid framework and through which heating, plumbing and other services are brought. Between the criss-crossing structural members, 334 prefabricated apartments, of 23 different types, are fitted independently like drawers



FLOOR PLAN and elevation show typical layouts of apartments, intercommunication stairways and elevator service shafts. Elevators stop only every third floor (shown by heavy lines in elevation at left). (Photos by Photo Industrielle Du Sud-Ouest)



Inserted like drawers in a cabinet completes this . . .

Unique structure as . . .

A Vertical City

World News)

in a filing cabinet. Thoroughly soundproofed, they are assembled from combinations of basic units, which are mass produced in a factory.

While most of the apartments will be occupied by tenants, the seventh and eighth floors will be devoted to a shopping center, which is expected to carry a complete variety of items. On the eighth floor also, a block of single and double rooms will be assigned as a hotel for guests of the tenants.

On the roof will be a garden, swimming pool, solarium, gymnasium, kindergarden and a variety of hobby shops. A small medical clinic will be located on the top floor, two large clubrooms on every three floors and laundries at frequent levels. Garages and heating and ventilating equipment will be placed in the basement.

Building rests on rigid-frame base

Over the basement is a reinforced concrete slab, supported on longitudinal and transverse girders protected from infiltration of water by a waterproof membrane.

Foundations consist simply of concrete spread footings extending to a depth of 30 ft. They support two rows of hollow, concrete piers, spaced 27 ft. 6 in. apart longitudinally, each pier carrying a load of 1,500 metric tons.

Reinforced concrete girders, cast in pairs monolithic with the piers at the first-floor level, form transverse rigid frames. Each frame has a span out to out of 41 ft. 4 in. with an overhang of 13 ft. 9 in. on either side. The two parts of the double girders are 2 ft. 6 in. apart to permit the passage of the plumbing, wiring and other utilities from the piers to the upper stories.

Each row of piers is linked in the north-south direction at the first-floor level by a continuous reinforced concrete girder, which in turn supports a floorbeam at the midpoint of each span.

On these longitudinal and transverse girders rests the 9½-ft. thick first floor, which carries the upper portion of the structure. The slab is solid except for three transverse expansion joints and for traps and holes for elevator shafts, plumbing and wiring.

Resting on this heavy platform is a framework consisting of transverse, reinforced concrete rigid frames, spaced 13 ft. 9 in. apart, which are linked in the north-south direction by continuous girders. Frames are of two types: Those in the same plane as the piers (called the main frames) designed to resist both horizontal thrust and vertical load; frames intermediate between piers designed to resist only vertical load.

Pipes carried in structural members

The main frames consist of a column at each face of the building and two interior hollow columns, which do triple duty as structural members, plenums for heating and ventilation, and passageways for plumbing and wiring. The intermediate frames consist of six solid columns spaced about 14 ft. apart. Exterior columns are fitted with brackets upon which prefabricated balconies are placed.

At every three stories—where main passageways are located—the frames are topped by a concrete slab. These platforms and the main frames dice the building into fireproof cells, each of which holds two of the prefabricated apartments.

Like the first-floor mat, the upper stories are divided in four equal segments by expansion joints, each component being independently capable of resisting horizontal thrust. This design speeded up construction by making it possible to build each section separately and to start installing prefabricated units in one before the next was finished.

Facings and interior finishes

The exterior of the building is faced with precast concrete slabs coated with a white gravel quarried near Marseilles. The balconies, which cover most of the outside of the edifice, are also made of precast concrete elements, as are stairwells, corridors and movable horizontal blinds that protect the balconies from the summer sun.

Corridor floors are of reinforced concrete cast integral with the framework. The slabs are covered with sand and finished with two strips of granite terrazzo between which is a 6½-ft. wide rubber mat cemented to a concrete coping. Corridor ceilings are faced with slabs of perforated fiberboard to reduce noise.

The building roof—slightly humped at the center to assure good drainage—is waterproofed with several layers of tarred felt over sponge-glass insulating blocks. Over this is a bed of sand on which rests a concrete slab faced with granite terrazzo.

Factory-built apartments

Probably the most interesting part of the construction is the makeup of the apartments in the building. Prefabricated, the units are structurally

independent. They have no common walls and are isolated from each other by air pockets. They rest on the framework at only a few points, where they are fitted with lead boxes to block sound transmission from the girders. Baffle plates and flexible joints cut down noise transmission by plumbing.

The three basic units of which the apartments are composed have the following dimensions: Unit I is symetrically T-shaped, each element of the T measuring 27.1 x 11.5 x 7.42 ft. Unit II measures 32.8 x 11.5 x 7.42 ft., and Unit III is the same size as Unit II except that it is half as wide. The majority will have a two-story (15-ft. 9-in. high) living room—twice as high as the other rooms.

These units are fitted together very much like children's building blocks to form apartments ranging in size from one to eight rooms.

Useful-space ratio high

The design makes it possible to save space by eliminating nearly two-thirds of the building's corridors. Elevators stop only at every third floor. With the two-storied apartments overlapping by one story, one corridor (or internal street, as Le Corbusier calls it) serves three stories.

Apartment floors are made of panels of grooved planks resting on a foundation of corrugated sheet steel. A layer of tarred felt is placed between the planking and the metal to cut down noise. Over the planking are successive layers of tarred felt, ½ in. of soft fiberboard, ¼ in. of hard fiberboard and linoleum. Kitchens are tiled and bathroom floors are finished with rubber matting.

Walls that will be in the interior of the building are made of foamed-concrete slabs faced with wood paneling and plaster. These slabs are 2 ft. 9 in. wide and extend the full height of the room, vertical joints being packed with plaster under pressure. Wall surfaces of the bathrooms and kitchens are finished with a plastic to permit thorough washing. Outside sheets of glass cemented together with transparent plastic to form movable panels.

Heating and ventilation

All parts of the structure are to be heated and ventilated by air pumped through the hollow members of the main frames. Air is sucked in at the bottom of the building, filtered, routed down through the piers to the basement for another filtering and humidifying, and then passed through a system of water coils. It is then pumped through the building via the hollow framework.

Heated in winter and cooled in summer, the air will enter each apartment at the bottom of the glass exterior wall and be exhausted through ventilators located in every room. Rate of circulation normally will be about 13 ft. per second, sufficient to completely renew the air once every 45 minutes.

Financed by the French ministry of Reconstruction, the Vertical City will cost $1,000,000.

The Optical Transit Has Arrived

By Thomas E. Riley
Registered Surveyor
Portland, Ore.

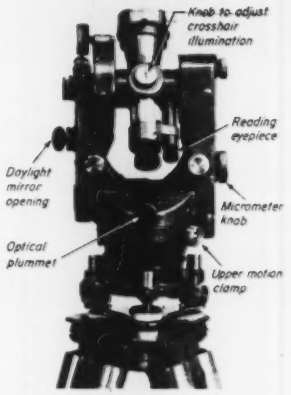
The advent of an optical transit of the repetition type is important news to the ordinary surveyor. Today this instrument—a perfected optical-reading double-motion transit—is being imported from Switzerland, and within a year at least one American maker will have one on the market.

This means that the advantages of the optical theodolites are finally available to those of us who do ordinary surveying. These precise optical theodolites have been used throughout Europe for twenty-five years, and their use for precise surveying on this continent is growing (ENR June 10, 1948, p. 94; Oct. 28, 1948, p. 112), but all of these instruments are directional theodolites, so they are of little help to the average surveyor in the United States, who is used to the repetition or double-motion transit.

New techniques not necessary

The first optical transit is receiving immediate acceptance: it is a practical instrument, not a Rube Goldberg gadget. It turns angles in exactly the same manner as do conventional transits. It requires no change in either the field work or office computations. And rather than requiring more skill to operate, it greatly simplifies the procedure of measuring an angle.

Its speed and simplicity of operation are of real value to ordinary surveying crews. The transit is light and compact—about half the size of an ordinary transit and somewhat lighter (10.7 lb.). With the optical plummet, the instrument man sets up over a point by glancing through a small



COMPACT AND LIGHT, this optical transit is for ordinary surveying. Lower-motion screws are on other side.

prismatic eyepiece in the base of the transit, aligning a tiny circle over the point on the ground. The optical plummet is not only more precise, but it also eliminates the time required to adjust the length of a plumb bob string and to center a plumb bob—an especially slow job on windy days.

The surveyor reads all his angles by simply moving his eye an inch to the right after pointing the telescope. This means speed. Both the horizontal and vertical readings are given in the second eyepiece almost as simply as the mileage is given on an auto speedometer. Each degree and minute is numbered to prevent mistakes in reading. Everything, including the leveling bubbles, is designed so that the surveyor can complete the measurement of his angles without moving from behind the telescope. The telescope itself is compact for easy manipulation—5¾ inches long with 28 power. To be so compact with such magnification, it contains a large objective lens and, therefore, by a simple law of physics automatically doubles its light-gathering properties for dull days and indoor surveying.

Greater precision not needed

Some engineers have expressed disappointment that this optical transit does not read angles closer than does an ordinary 20-second transit. Field tests prove that finer divisions are of doubtful advantage in ordinary surveying, where the observing precautions of geodetic work are impractical and usually impossible. This transit reads angles directly to one minute, with interpolation to either ten or six seconds if desired.

However, an improvement in ac-

curacy exists because the reading is undoubted and unaffected. As in all optical instruments, there is no reading error from parallax, no distortion of the circles from the heat of the sun, and, most important, no chance of misreading a vernier. There is seldom any need of turning an angle more than once in construction or cadastral surveying with an optical transit.

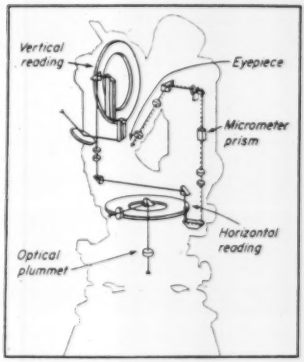
There is no vernier. The angles are given—as in optical theodolites—by trains of prisms that carry the readings to the small eyepiece alongside the telescope. A small mirror on the left side reflects daylight into a series of prisms that carry the light rays to the vertical circle, which is a 2.8-inch dia. disk of optical glass with numbered graduations etched in degrees. The light is passed through the edge of the vertical circle to pick up its reading in degrees and is then carried on by more prisms and lenses to the horizontal circle. The light passes through the edge of the horizontal circle (a similar disk 3.1 in. dia.) and then both readings are carried through a prism micrometer. The micrometer is a simple plane-parallel square of optical glass that, when tilted, bends the rays of light to give either the horizontal or vertical reading to minutes of a degree. Additional prisms and lenses carry the horizontal and vertical readings, plus the reading from the micrometer scale, on to the eyepiece alongside the telescope.

The surveyor simply turns his angle by sighting with the telescope; then—say to read the horizontal circle—turns the micrometer knob to center the horizontal degree that he sees in the reading eyepiece. The micrometer scale then shows the minutes and fractions of minutes of the horizontal angle.

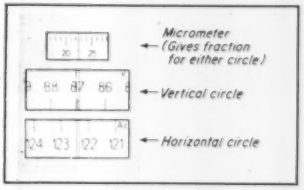
Telescope pointing unaffected

By simply moving the micrometer knob further, to center the vertical angle seen in the eyepiece, the minutes of the vertical reading are given. The micrometer does not change the pointing of the telescope; it merely bends the reflected readings from the circles. Only one side of the circle needs to be read. This preciseness is obtained from the fact that all critical parts are optical in nature and can therefore be manufactured to optical tolerances rather than mechanical.

The drawback to all optical instruments in the past has been the difficulty of making repairs here in the United States. Major repairs still are not available in local instrument shops, but this drawback has been greatly reduced in that the manufacturer, because he is making a construction instrument for American use, has established a parts department and repair shop in the United States.



ROUTE OF LIGHT, as it travels through vertical and horizontal plate prisms, then to reading eyepiece. Optical plummet prism and lenses also shown.



WHAT SURVEYOR SEES when he reads the optical transit. Here micrometer is centered on a vertical reading of 87 deg. 22-plus min. Horizontal plate also is in sight.

Maintenance by the surveyor (cleaning and adjusting) and actual wear on the instrument can safely be assumed to be less than half of that with ordinary transits. The enclosed design, truly dust- and moistureproof, is the reason. Probably the best example of the optical instrument's ability to take rough treatment was given to us who used the similarly-constructed theodolites during the war. While with the Army topographic battalions we found that the optical instruments stood up permanently, in Alaska as well as the jungles of New Guinea, under conditions that almost immediately ruined all other surveying instruments.

Cost is reasonable

First cost of the new instrument is satisfactorily low in comparison with other transits—approximately 20 per cent higher than that of an ordinary transit. This difference can be expected to be cancelled out the first month by more efficient work on a job.

The optical transit is definitely an all-weather instrument. Its enclosed circles and unique ball-bearing movements allow it to operate smoothly in both freezing and wet weather. Though not too important to the average surveyor, night observations with it are childishly easy. On any occasion that night work is planned, a small square flashlight is simply plugged into the daylight mirror opening. This replaces the daylight, illuminating all important parts of the transit, including the crosshairs of the telescope. The crosshairs themselves add to efficient surveying as they consist of fine lines etched on an optically-flat disk instead of the easily-broken spider web or platinum wire. The etched lines are thrown into relief, illuminated, by reflected light which the surveyor can adjust, to fit his eyes for better pointings. And the etched stadia lines are short lines, to prevent misreading them for the horizontal center line.

Mexicans plan rainmaking; Krick markets weather aid

Four agricultural experts from the state of Coahuila, Mex., spent four days studying techniques of the Precipitation Control Company at Phoenix, Ariz., and plan to start artificial rainmaking in their own state (in central Mexico, 500 miles south of El Paso.) The group studied the silver iodide spraying method employed by the company.

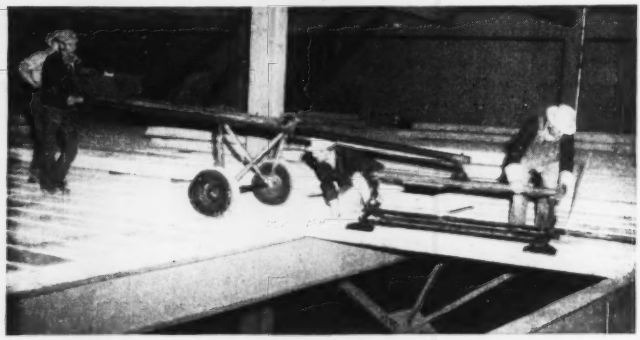
Richard D. Searles, president of the Salt River Valley Water Users Association, talked with the Mexicans and outlined how artificial rainmaking had produced increased runoff for the Arizona system (ENR Jan. 20, p. 57).

Meanwhile, Irving P. Krick—the man who made the rain in Arizona—has placed on the market a $15.00 weather forecaster.

The instrument operates on the principle that wind and cloud formations reveal coming short range (24-hour) weather changes. Wind directions and sky conditions are recorded in the unit which in turn produces the 24-hour prediction. If the direction of the wind changes or the type of cloud formation shifts, new readings are made. There are 122 separate forecasts. Although accurate for any place in the U. S., separate units have been designed for each of seven climatic zones for maximum efficiency.

Krick was wartime Chief of the Weather Information Section, U. S. Strategic Air Forces, where he advised General Eisenhower of weather conditions prior to the Normandy landings. The Krick Weather Guide is distributed from 1276 E. Colorado, Pasadena, Calif.

Grandstand Decking Is Made of Precast Concrete Slabs



1. Dolly places pumice concrete channels that span 10 ft. between girders . . .

2. To form this unified floor system . . .

3. That has units sawed to fit columns . . .

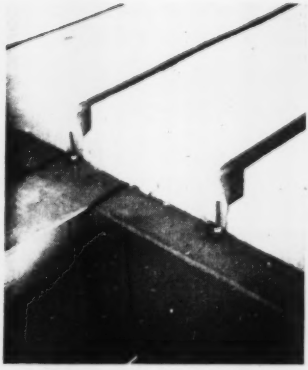
Precast channel-shaped slabs of lightweight (pumice aggregate) concrete were used for 45,000 sq. ft. of grandstand decking in the expansion of facilities at Hollywood Park racetrack in Los Angeles.

Primary advantage of such a floor system is that no on-the-job formwork or concrete pouring is required. Besides this, erection is swift and the resulting dead load is reduced—all of which saves money on the completed job. Thus it is well suited to grandstand type work where steel does not have to be encased and where ceiling heights make scaffolding difficult.

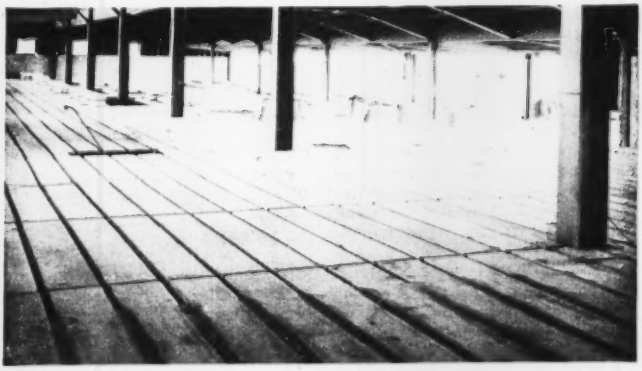
The slabs are 10 ft. 7 in. long, 18 in. wide and 6 in. deep. Wire mesh in the web and $\frac{1}{4}$-in. bars in each flange reinforce the slabs. The slabs are placed side by side, and to bridge an opening of about 3 in. at the top between slabs, a $\frac{3}{8}$-in. reinforcing bar is placed before the opening filled with grout. This, together with some overlap of the wire mesh reinforcing, effectively bonds the slabs.

The pumice aggregate permits the slabs to be sawed to fit the slabs around columns and other openings in the floor system. A hand-operated electric saw with a $\frac{1}{8}$ x 7-in. abrasive blade was used for this purpose. After the floor slab was completed, a $\frac{3}{8}$-in. asphaltic underlayment was placed on top of it and an asphalt-tile floor finished the job.

These precast slabs were designed, manufactured and installed by Wailes-Bageman, Inc., Los Angeles. General contractor was Robert E. McKee, Glendale, Calif. Architect was Arthur Froelich and structural engineers were Henry M. Layne and Paul Jeffers, all of Los Angeles.



4. With space for grout . . .



5. To hold slabs on mezzanine of track grandstand.

Four hours ago this complete elevator was on a truck

They hauled it to the job only this morning . . . and before noon it was set up *and running!* And notice . . . this AMERICAN Material Elevator is all there. There's nothing else to add. As upper floors are added, elevator height is already available to serve them. The setup job is done . . . for good.

Now, compare this fast easy job with the costly, labor-wasting, time-consuming task of cutting, fitting and erecting timbers for an ordinary wooden tower. Think of the hours your workmen will spend keeping it in safe operating shape. Try to figure how much it will cost you to tear it down when the job's finished. Try to estimate the cost of the lumber you're bound to waste . . . and remember, with a wooden tower, you'll be repeating this expensive process on *every* job! You can eliminate all those profit-whittling costs with an AMERICAN Material Elevator. Doesn't that make sense?

And you don't even have to buy one. Most AMERICAN HOIST construction equipment distributors have AMERICAN Material Elevators you can *rent* at low cost for as long as you need them. Though, after you've tried one on a job, you'll likely want to own your own.

PUTS ITSELF UP

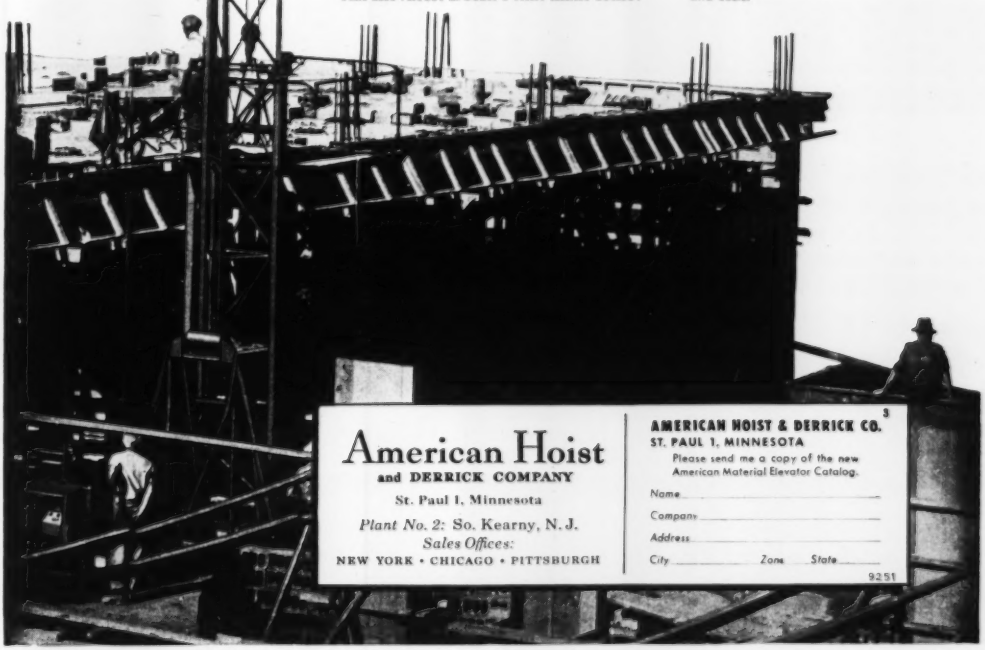
● Elevator's own hoist lifts 47 foot tower into position. Additional tower sections of 10 feet each are easily placed with a gin pole to a height of 97 feet.

INTERCHANGEABLE CONCRETE BUCKET

● Big 6 x 6 foot platform is quickly interchangeable with a half-yard self-dumping concrete bucket.

EXTRA LOAD CAPACITY

● A 2500 pound load glides up the AMERICAN Material Elevator at 87 feet a minute. Bigger loads at greater speed mean savings in time and costs.



American Hoist
and DERRICK COMPANY
St. Paul 1, Minnesota
Plant No. 2: So. Kearny, N. J.
Sales Offices:
NEW YORK • CHICAGO • PITTSBURGH

AMERICAN HOIST & DERRICK CO. 3
ST. PAUL 1, MINNESOTA
Please send me a copy of the new American Material Elevator Catalog.

Name_____
Company_____
Address_____
City_____ Zone____ State_____

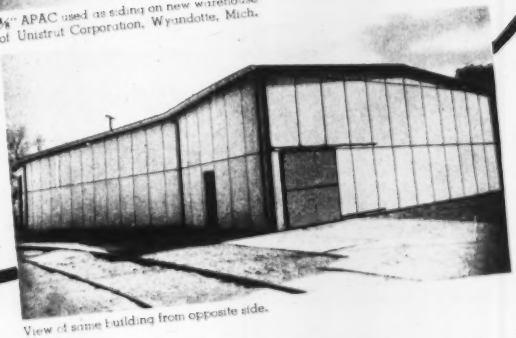
9251

OUTSIDE AND INSIDE, TOO... IT'S

K&M

"Century" APAC

⅜" APAC used as siding on new warehouse of Unistrut Corporation, Wyandotte, Mich.



View of same building from opposite side.

In this new building of the Unistrut Corporation, Wyandotte, Mich., "Century" APAC asbestos-cement sheets were used both for siding and interior walls . . . where they can be counted on for a long life-time of dependable service.

"Century" APAC is the ideal material for industrial buildings of many kinds . . . both in new construction and remodeling. It is economical to use . . . easy to handle and apply, so goes up fast. It requires no protective paint, and maintenance is at a minimum. In fact, APAC actually grows tougher with age.

In addition to its use as siding and interior walls, APAC is extensively used for ceilings, office paneling, partitions, sheathing in machine shops and stock rooms, elevator shaft casings, storage bins and other flat surface applications.

Being made of asbestos and cement, APAC is fire resistant and proof against weather, rust, corrosion, rot, rodents and termites. It can be applied over insulation board, wood studs, solid wood sheathing, steel or wood girts. APAC is furnished in thicknesses of $\frac{3}{16}$", $\frac{1}{4}$" and $\frac{3}{8}$". Standard size sheet is 4' x 8', but cutting to size is simple—just score and snap off.

Write for name of nearest distributor and further particulars. Your inquiry will receive prompt attention.

Nature made Asbestos . . . Keasbey & Mattison has made it serve mankind since 1873.

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA

DEVELOPMENTS ABROAD

PAN-AMERICAN HIGHWAY PROGRESS—It is expected that by next year an unbroken route will stretch 2,560 mi. from Texas to the border of Costa Rica. Mexico goes to work on its incomplete sections this summer.

Mexico—Pushing ahead into what engineers say will be its greatest highway building year, this country expects to complete a 1,660 mile section of the Pan-American highway this summer.

The road is now within 35 miles of the Guatemalan border, although surfacing has yet to be completed on another 30 miles.

Unfortunately, because of a revision of the Pan American highway route to shorten its overall length, the Mexican terminus will not connect with an already existing all-weather highway which Guatemala has built to its border on the Pacific Coast at Tapachula, Mexico. Because of the new routing, some 50 miles of new highway must be built by the Guatemalans to link up with the route in Mexico. Although this work will cover some of the most difficult terrain in Central America, a connecting route is expected to be cut through within a year.

With this connection made, the 900 miles of all-weather road through Guatemala, El Salvador, Honduras and Nicaragua will be connected with Mexico's system, to make available next year a stretch of 2,560 miles from Texas to Costa Rica's border.

Meanwhile, Mexico has nearly finished work on another first-class highway extending from Mexico City through the northwest to Ciudad Juarez, on the border opposite El Paso, Texas. Other important road jobs under construction in Mexico include such main arteries as the Valle to Tampico highway north of Mexico City, on which paving was completed a month ago.

Work is also progressing on what will be the biggest road job in the country—the Pacific Coast Mexican highway, a 2,486 kilometer road from Nogales down the coast to Guadalajara and then inland to Mexico City. This latter road will provide the long awaited route from California to Mexico City and is expected to give new impetus to Mexico's No. 1 dollar-producing industry—the tourist business.

Funds allocated by the Mexican government in 1948 for road construction and maintenance totaled more than $53,700,000.

Transport

India—Faced with manifold financial problems, the Indian government has cut back heavily its original plan to spend $60,000,000 on a national highway system in the five years 1947-52. In the fiscal year just commenced $6,500,000 will be spent on new projects and $6,250,000 on maintenance and repairs.

In 1947-48 $900,000 was spent on new projects and $5,370,000 on maintenance, while last year totals were approximately $5,400,000 for new projects and $6,400,000 for maintenance. Thus the total expenditure at the close of fiscal 1949-50, three-fifths of the way through the program, will have been only $30,820,000 or barely more than a third of that originally planned.

The Indian Roads and Transport Development Association, one of the oldest established road federations in the world, has now applied for membership in the International Road Federation's European and Eastern Region.

Coinciding with the receipt of the application was the visit to London on their way to New York of the third deputation of Indian road engineers to the U. S. on May 5. The deputation was received at the IRF London headquarters by Lord Sandhurst, chairman of the British Road Federation.

Financing

Liberia—The Export-Import Bank has authorized a credit of $4,000,000 to the Liberia Mining Co., Ltd. The credit will assist the development of high grade iron ore deposits at Bomi Hills, the building of a 45-mile railroad from the port of Monrovia to Bomi Hills, and the construction of ore handling and storage facilities at the port.

Half of the estimated $8,000,000 capital cost of the project will come from the bank's loan. About $1,000,000 already has been spent by the mining company on development work. The credit will be open for the use of the Liberian firm until June 30, 1951.

Deposits at Bomi Hills are estimated to contain more than 20,000,000 tons of high grade ore yielding better than 65 percent iron. Large additional quantities of lower grade ore are known to exist in the area. Construction of the railroad and installation of mining equipment should permit ore deliveries to begin in 1951. Production is expected to amount to at least 1,000,000 tons of high grade ore per year—at a cost competitive with other sources of iron ore both in the United States and elsewhere.

Before making the commitment, the bank sent to Liberia two members of its staff—John D. Fitch, chief of the engineering division, and Richard N. Johnson, assistant treasurer—to study both the possibilities of the iron mine and the general conditions and development prospects of the African republic. These men were assisted in their Liberian investigations by Dr. Thomas Thayer, of the U. S. Geological Survey, and Oscar W. Meier,

chief of the U. S. economic mission in Liberia.

This latest credit increases the total of loans and commitments by the Export-Import Bank to $2.57 billion. It meets the bank's requirements of contributing substantially to the dollar earning capacity of foreign countries—in this instance Liberia—while at the same time giving adequate assurance of repayment from profitable operations. Directors of the bank hope that the loan will encourage other private capital investments in Liberia to increase that country's great potential productive power.

El Salvador—A two-man mission of the World Bank (The International Bank for Reconstruction and Development) has arrived from Washington to study economic development prospects in El Salvador, particularly the Rio Lempa hydroelectric project. El Salvador has not applied to the bank for a loan, but the Central American republic asked for a mission to examine the possibility of World Bank participation in financing development projects in that country.

F. A. Consolo of the loan department and Albert Waterston of the economic department are the two members of the bank's team. They will remain in El Salvador several weeks.

Housing

Sweden—The government recently approved a new housing program for the construction of 33,000 units. About 60 percent of all Swedish cities will receive an increase in their building quotas under this authorization. Three thousand apartments will be provided in centers where export industries are located for the purpose of improving the labor situation in this field. In all, the program allows for 15,000 more apartments than were authorized last year.

India—An experimental house built of stabilized earth is being constructed in Madras. This is part of an effort to furnish cheap houses to fill the urban and industrial needs.

Stabilized earth contains 75 percent earth, a portion of sand and one percent cement.

An inexpensive machine has been designed to produce 3,000 bricks of stabilized earth per day. With a number of such machines it is claimed that houses can be mass produced.

BIGGEST FRENCH CANAL PROJECT—Building a canal whose earthworks will approach those of the Suez Canal in volume, French engineers push ahead with the second phase of their development of power resources—the Donzere-Mondragon power plant and navigation canal. The 25-mi. canal (ENR July 31, 1947, p. 6) will be coupled with a low diversion dam at a bend in the Rhone River near Donzere. The project, which will produce in addition about 300,000 kw., is being built by the Compagnie National du Rhone—a government agency. (Eastern Publishers Service Photo)

Miscellany

New Zealand—International tenders will be called for the driving of a 5-mile railway tunnel through the Rimutaka Mountain range.

These details of the project were made available to McGraw-Hill World News by Mr. E. R. McKillop, Commissioner of Works:

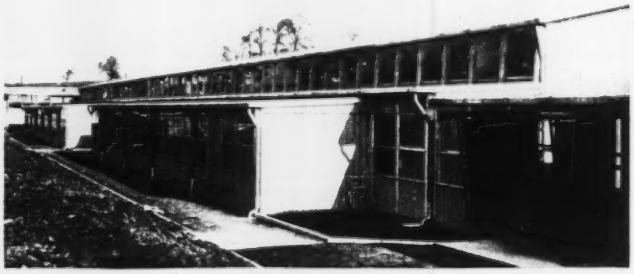
The existing railway route from Wellington to the Wairarapa and East Coast districts crosses the Rimutaka range at an elevation of 1,242 ft. Limiting grades on the west side of the range are 1 in 35 and on the east side 1 in 13.

The tunnel will make possible a ruling gradient of 1 in 70 and will reduce the distance by 9.4 miles. The greater elevation reached by the tunnel will be 584 ft.

A conventional horse-shoe type tunnel, it is to take an electrified, single-track, 3 ft. 6 in. railway. The distance between portals will be nearly 5½ miles.

It is expected that the tunnel excavation will be almost entirely in rock (graywacke) with the exception of a short distance of clay-bound gravel at the west end. It is probable that some faults will be encountered and that these will require heavy timbering, but no other engineering difficulties are anticipated. It is expected that lining will be required practically throughout the length of the tunnel.

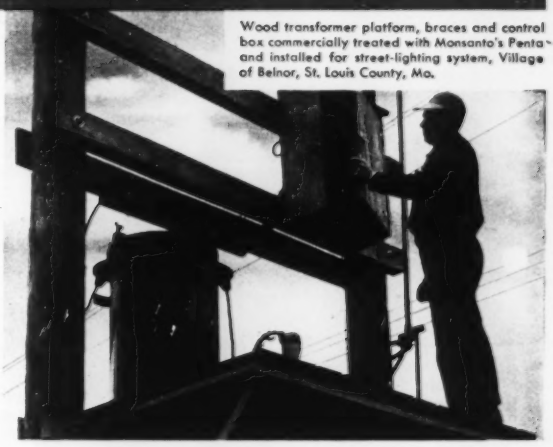
As the existing track and equipment are nearing the end of their useful life, the Ministry of Works is anxious to have the railway tunnel completed four or five years after the contract is let.



ALUMINUM PREFAB SCHOOL—Built of prefab units made by Bristol Aeroplane Co., Lockleaze Primary School, Bristol, is the first permanent prefabricated school in Britain. Aluminum units were delivered to the site and erected on floors built in place. (British Combine Photo)

this can't happen here

These rotten, unsafe wooden members were replaced with Monsanto Penta-treated material.



Wood transformer platform, braces and control box commercially treated with Monsanto's Penta and installed for street-lighting system, Village of Belnor, St. Louis County, Mo.

PENTA CHLOROPHENOL preservative

(Santophen 20)

Treatment with Monsanto's Penta will add years to the service life of your wood construction. It provides long-lasting protection against decay, termites and other wood-destroying insects, yet leaves wood CLEAN and workable... Penta-treated material is dark or light-colored, depending upon the oil solvent used. In either case, it is still CLEAN and non-staining.

Monsanto's Penta penetrates thoroughly. Protection *stays* in the wood, resists leaching by moisture, remains effective under high humidity. Furthermore, Penta is a definite chemical entity — its characteristics are always constant, always laboratory-controlled.

Men who plan or maintain industrial wood construction quickly recognize the advantages of Monsanto's Penta —described in the booklet, "Monsanto Pentachlorophenol for Preserving Wood in Industrial Construction." Send for your free copy today. MONSANTO CHEMICAL COMPANY, Desk E, Organic Chemicals Division, 1759 South Second St., St. Louis 4, Missouri.

MONSANTO
CHEMICALS — PLASTICS

Santophen Reg. U. S. Pat. Off.

MONSANTO CHEMICAL COMPANY
Desk E, Organic Chemicals Division
1759 South Second Street, St. Louis 4, Missouri
Please send me a copy of your booklet on Penta for Industrial Construction.

Name _____ Title _____
Company _____
Address _____
City _____ State _____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

Maintenance

made easy and economical with the

OLIVER-HENKE MAINTAINER

Here's a light, economical road maintainer that gives you many features usually found only on much heavier, more costly machines. Rugged construction . . . finger-flip hydraulic controls . . . blade angle easily adjusted from driver's seat . . . leaning wheels . . . hydraulic scarifier . . . hydraulic steering . . . 12-foot blade . . . plus many other important advantages are yours with the OLIVER-Henke Maintainer.

The powerful OLIVER Model 88 Industrial Tractor gives the unit plenty of power for economical maintenance of gravel and dirt roads and light ditching work. The famous OLIVER "Fuel Miser" engine with variable speed governor assures minimum fuel consumption. The entire unit is easily accessible for service. All wearing parts can be inexpensively replaced if necessary. And, if desired, the tractor can be readily removed from the Maintainer and a front-end loader quickly installed.

For efficient, economical road maintenance, the OLIVER-Henke Maintainer will effectively augment your heavy equipment and do a large share of the work at reduced operating costs. Ask your OLIVER Industrial Distributor to show you the outstanding economy of this unit.

The OLIVER Corporation

Industrial Division: 19300 Euclid Avenue, Cleveland 17, Ohio

"THE SIGN OF EXTRA SERVICE"

A Complete Line of Crawler and Industrial Wheel Tractors

MUNICIPAL AFFAIRS

Financing Traffic Improvements

Seeking new means of financing much-needed traffic-flow improvements, governmental units come up with interesting solutions last week.

The Ohio legislature, for example, approved a bill which would permit cities to use general fund moneys or to issue mortgage revenue and other types of bonds to acquire land or facilities for off-street parking.

The bill also grants cities eminent domain rights in buying land for such purposes.

In Ontario, the Toronto and York Planning Board has authorized the imposition of a $10-a-year municipal tax on automobiles to finance a coordinated arterial traffic system for metropolitan Toronto. It is figured that the tax will produce a revenue of $2,500,000 a year.

In Baltimore, Md., an off-street parking loan has been arranged, and one project that has been suggested is the construction of decks over an existing downtown parking lot. Under the off-street parking legislation, an agreement to use the loan funds to aid private capital in providing additional parking facilities must have the approval of the Board of Estimates, and under the policy set up by the commission, the operator must provide at least 20 percent of the cost of an improvement out of his own funds to be eligible for aid out of the loan fund. Contracts will require the borrower to amortize the loan and pay interest at the rate of 2½ percent on the bonds that are sold to provide the construction funds.

Parking meters continue to prove a dependable source of income for municipalities. The city planning commission of Indianapolis, Ind., has approved the installation of not more than 525 parking meters in the downtown area on a trial basis.

Sewerage and Water Supply

Pressure for municipal action on stream pollution control continued to spur local drives for disposal plants and other measures. For example:

The New Jersey Superior Court has instructed Camden to speed up its program to end its pollution of the Delaware River. Judge Norman Rogers ordered the city to send plans for a new treatment plant to the State Department of Health within eight months; to complete remodeling of the Baldwin Run plant by December, 1951; and to place the entire new sewer system and both plants in operation by December, 1955. City officials, in asking for another extension, said that projects originally expected to cost $6,000,000 would now cost $15,000,000.

The city council of Alexandria, Va., has asked for a city charter amendment that would clear the way for the construction of a sewage treatment plant.

DOWNTOWN EXCAVATION DONE AT NIGHT—This historic hill near Los Angeles' civic center—site of 100-year-old Ft. Moore and suspected burial place of Spanish gold—is being moved to make way for Hollywood Parkway. Contractor Guy F. Atkinson Co. has had to do hauling at night (4,000 to 4,500 yds. per night) because of heavy daytime street traffic. Here a Caterpillar D8 prepares for the night's work.

The city of Raleigh, N. C., by a Superior Court order signed May 16, was ordered to stop dumping raw sewage into the Neuse River as soon as a purification plant can be constructed, at least by January 1, 1955.

Although the new $700,000 sewage treatment plant in Fremont, Ohio, will not be operating until Aug. 1, bills for sewer rentals were added to regular water bills in May. Mayor Harold Whitcomb said the collection was statred early so that a fund could be built up to pay maintenance cost when the plant opens. A minimum charge of $3 a year to domestic water consumers is being made.

The cost of the new water plant and distribution system of Decatur, Ill., is estimated at $1,800,000, according to Water Commissioner William Bushrod, or $300,000 more than originally estimated. This is due, partly, to several large residential districts recently added.

Begin Indianapolis work

After more than a year of delay caused by a state law error and shortage of municipal engineering help, the $4,000,000 sewer construction program at Indianapolis, Ind., has begun, with private engineering firms preparing plans for half the project. City Engineer M. C. Johnson said sewer contracts to be completed this year will affect about 25 percent of the city's residents.

Warren, Ohio, city council has approved plans for a $5,000,000 water treatment plant with mains leading from Mosquito Reservoir. Accepted is the report of Havens & Emerson, Cleveland, consulting engineers, which outlines the construction of a new filtration plant, pumping stations, and mains to connect the reservoir with the city's mains.

City Manager J. L. Franzen, Salem, Ore., has been in conference with Army Engineers of the Portland district on a proposal for use of storage at Big Cliff Dam, a regulating dam 3 mi. below the Detroit Dam, which the Corps of Engineers is building on the North Santiam River as a part of the Willamette Basin flood control.

City's Largest Contract—The Rust Engineering Co., of Pittsburgh, Pa., was recently awarded a $1,041,000 contract for enlargement of the north side sewage treatment plant at Houston, Texas. This award is said to be the largest single contract ever let by the city of Houston. The expansion will increase capacity from 18 to 30 mgd.; the contract also includes building a fertilizer plant to handle sludge from the city's treatment works.

City Annexations

Refusal to provide municipal services to outlying areas is a factor spurring recent annexations by cities, according to the International City Managers' Association. A recent survey reveals that more than 145 sq. mi. of fringe area was added to 289 incorporated cities over 5,000 population during the past year.

"Refusing sewerage service to outside areas was a major factor in the success of the Long Beach, Cal., annexation attempts of 1946-47." The city added additional area last year. Other cities which have discontinued out-of-city service include Cincinnati, Jacksonville, Fla., Louisville, Ky., Manitowoc, Wis., Newberg, Ore., and St. Paul, Minn.

Most territory annexed in 1948 was Roanoke, Virginia's addition of 11.83 square miles. Albuquerque, N. M., added 7.38 square miles during the year through annexation, and El Paso annexed 7.26 square miles. The smallest land acquisition was one-half acre by Lorain, O.

Predominantly, cities supported annexations to control future development of fringe areas through zoning, building regulations and planning techniques. Chief reason for opposing fringe-area expansion was the fear of increased taxes. However, territory outside of the city limits of Burley, Idaho, favored absorption into the city mainly to lower its taxes and fire-insurance rates. The fringe area of Eugene, Ore., desired annexation after discovering that total tax paid to special districts was greater than the city-tax rate.

Nineteen cities increased their area more than 25 percent through annexation. Plaquemine, La., gained 500 percent by adding five square miles to its existing one square mile. Blytheville, Ark., grew 118 percent when it added 2.06 square miles, and Florence, S. C., expanded 100 percent by a total annexation of three square miles.

Among cities over 100,000, El Paso made a 42 percent gain in area, Oklahoma City grew 9.5 percent by adding about 2.5 square miles, and Milwaukee had a seven-percent increase after bringing slightly more than three square miles within its corporate limits.

Sixteen California cities added land area of one-fourth square mile or more last year through annexation. Los Angeles' annexation of 1.06 square miles brought total city area to 453.2 square miles. Ten Texas cities annexed fringe areas.

The usual process for annexation of unincorporated area in most cities involves some combination of (1) majority vote in the area or petition by a certain percentage of fringe residents or property owners, followed by (2) passage of a city ordinance or majority approval by city voters.

Effective January 1, 1950, Ottawa will double its size and become Canada's fifth city in population when it annexes Nepean township. This eleventh annexation of adjoining territory in 50 years will add 11.6 square miles and 20,000 residents to the city.

Smoke Control

Three cities this week report new moves in smoke nuisance control.

The city council of Fort Wayne, Ind., unanimously passed a smoke abatement bill, defining a smoke nuisance, centralizing smoke control authority, and establishing penalties up to $300, with each day of violation constituting a separate offense. The bill authorizes establishing a five-member Smoke Abatement Commission which will employ a smoke inspector. Any person permitting smoke with a density greater than No. 2 of the Ringlemann Scale is considered a violator, excepting in the case of private residences, where smoke is emitted for a period of not more than six minutes in any one hour when a new fire is being built, fire pots cleaned, or where the condition is caused by a breakdown of equipment.

Elwin G. Spever, commissioner of public works of Buffalo, N. Y., has been named by the mayor to serve on city's smoke abatement committee.

The city council of Indianapolis, Ind., passed a smoke control law which resulted in Robert L. Wold, city combustion engineer, resigning "in disgust". Critics say the bill does not impose limitations on the burning of low volatile fuel, and does not affect private homes and apartment dwellings under three units. It is also said that it does not control dust emission standards of metallurgical plants and foundries, and almost doubles the amount of allowable dust emission.

The bill reduces smoke density limitations from No. 3 to No. 2 on the Ringlemann chart, eliminates exemptions for railroads on locomotives moving upgrade or starting, provides for sealing of violating equipment, and requires reporting of sales of combustion equipment for entry on city inspection records.

States Aid Municipalities

Several state legislatures have passed laws designed to aid cities meet their many problems, according to the American Municipal Association.

Indiana, Montana, and Utah will share a greater portion of state-collected taxes with municipalities. Cities and towns in Indiana will receive fifteen percent of motor taxes under new legislation. Officials estimate return to municipalities will be $8 million this year—double the previous amount.

The first tax-sharing measure in Montana's history sets aside six percent of gross revenues collected in state liquor stores for allocation to cities, towns and counties. Local governments are expected to get $1,000,000 from this source in 1949 for their own purposes.

Utah boosted local shares of state-collected auto-license fees with an additional $772,383 to be divided among cities, towns and counties. A four-year term of office for municipal officials as well as city manager form of government for smaller cities was also authorized by state legislation, if locally desirable.

In Arkansas, the annual appropriations to the Municipal Aid Fund was increased to $3 million, nearly double previous allotments.

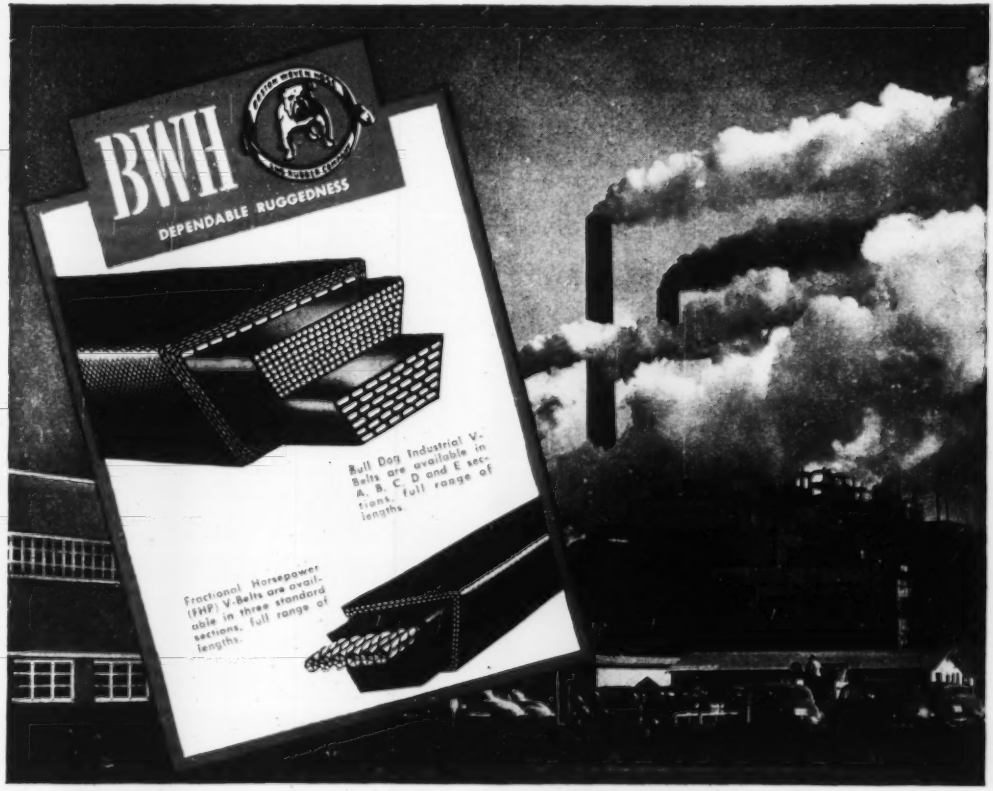
New York's legislature passed a bill permitting cities to condemn sites for the private development of public garages and parking lots. It also approved a bill authorizing additional state low-rent housing loans of $300 million to local housing authorities, a measure subject to the approval of voters at a special election.

Nebraska provided that insurance companies with capital and surplus of more than $5 million can invest up to 25 percent of the total in construction of moderate-rental housing. Projects must have at least 50 units.

Tennessee is the only state at the moment that has taken action on home rule. A limited constitutional convention to revamp the state's basic law was authorized, subject to the electorates' OK. Home rule by municipalities is one of the nine matters open for revision if the convention is held.

Charles B. Borland has been named general manager of the Hampton Roads, Va., Sanitation District Commission. He was formerly city manager of Norfolk.

Correction. In regard to the item on page 26 of our April 21 issue about overflowing septic tanks at San Jose, Calif., City Engineer H. J. Flannery calls our attention to the fact that the trouble was in subdivisions outside the city limits, in the jurisdiction of the county board of supervisors and not the city council. No subdivision is permitted within San Jose without proper drainage. Septic tanks are forbidden.


BWH
DEPENDABLE RUGGEDNESS
Bull Dog Industrial V-Belts are available in A, B, C, D and E sections, full range of lengths.
Fractional Horsepower (FHP) V-Belts are available in three standard sections, full range of lengths.

HERE'S WHY ALL INDUSTRIES ARE TURNING TO NEW BULL DOG V-BELTS

Industrial experts agree that the most important factor in improving productivity is better equipment. As a result, they're scanning new products eagerly and giving them thorough workouts. And BULL DOG V-BELTS are among the newcomers that have more than won their spurs in every trial.

It's typical of the 70-year BWH fame for precision that these V-Belts weren't put on the market till they'd been exhaustively tested in the field. BULL DOGS proved they had real tenacity. They gripped tighter, slipped less, stayed on the job longer. And here's the construction that accounts for this superior performance:

1. Exclusive Bull Dog Cord Section has higher tensile strength—able to carry the load and absorb shock.
2. Low Stretch, because exclusive Bull Dog Cords are processed in a new way. As a result there's less slippage, fewer adjustments, longer life.
3. Cool Running—thanks to quality-controlled compounds developed in BWH laboratories, which don't crack or deteriorate under severe flexing.
4. Wear-Resistant covers— made of bias-cut heavy fabric to protect heart of belt from dirt, grease, moisture.

Specify Bull Dog V-Belts on all replacements. You'll find they mean "More Power To You" every time.

HAVE YOU A JOB WHERE STAMINA COUNTS?

Bring us your toughest problems . . . we're specialists in solving them. Consult your nearest BWH distributor or write to us direct.

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

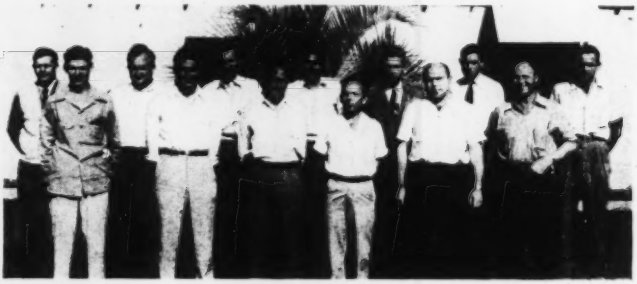
Distributors in all principal cities

PLANT: CAMBRIDGE, MASS., U. S. A. • P. O. BOX 1071, BOSTON 3, MASS.

MEN AND JOBS

Harry E. Frech, district engineer in the St. Louis, Mo., office of the Portland Cement Association, has retired. Having served the association for 30 years, he will be succeeded by **Carl J. Chappell,** an association field engineer in Missouri since 1945. In 1941, Mr. Frech, on leave of absence from the association, served with the U. S. Army as chief zone engineer for the 7th Construction Zone of the Quartermasters Department at Omaha, Neb. Mr. Chappell, a civil engineering graduate of Kansas State College, joined the association in 1940 as a soil-cement engineer. He had spent several years with the U. S. Public Roads Administration and the U. S. Geological Survey. **Leo H. Corning,** assistant manager of the association's structural and railways bureau, has been appointed manager, succeeding the late Arthur J. Boase. He was graduated in civil engineering from Case Institute of Technology and in the war was an engineering instructor in the Coast Artillery Corps, U. S. Army. He then was in private practice in Florida, and served as structural engineer with the M. A. Hanna Co. of Cleveland and as engineer of design for the water department there. Later he was structural engineer with the Foundation Co. of Chicago.

Maintenance Engineer **L. E. Vercoe** has resigned from the S. D. highway department. He will be succeeded by **Leo Ihli,** Pierre district engineer. Vercoe will join H. V. Johnston Co., Minneapolis culvert supply firm, with offices at Sioux Falls and Aberdeen. Ihli will be succeeded as district engineer by **Travis Bunn,** present Pierre resident engineer. **Eugene Muck,** Gettysburg, will move into the resident engineer's spot.



Pictured are engineering employes of the Florida State Road Department who completed a recent training course conducted by the civil engineering department of the University of Florida. Left to right, they are: John P. Roberts, F. A. Arnold, W. H. Godwin, S. G. Rowell, F. M. Stevenson, Wm. C. Lamb, Jr., C. M. Monts De Oca, G. F. McKinney, B. H. Mashburn, M. G. Alger, C. F. Birdsong, W. L. Judson, and E. H. Hart.

Gathered before the general-contractor's box-car field office for a conference on construction planning for a 5¼-mi., $12,000,000 relocation of the Norfolk & Western Railway Co., near Bluefield, W. Va., are (l. to r.): Roscoe Porter, resident engineer for the N & W; D. R. Agnew, president, D. R. Agnew Construction Co., Ronceverte, W. Va., who holds the masonry subcontract; J. H. Adams, vice-president, Sturm & Dillard Construction Co., Columbus, Ohio, general contractor; L. E. Joseph, general superintendent for Agnew; H. B. Smith, superintendent of the N & W Pocahontas Division; B. F. Crumpler, N & W assistant engineer in field charge of construction; and C. W. Fiery, N & W resident engineer in charge of tunnel construction.

Phil C. Hart has been named Knox County's first bridge engineer, for the projected construction of a new $500,000 Boyd's Bridge over Holston River at Knoxville, Tenn.

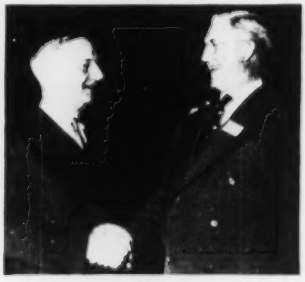
Martin G. Chitty, field assistant of the U. S. Corps of Engineers at Baton Rouge, La., has been made field supervisor of the $20,500,000 Morganza floodway control project.

John C. Cobb has been appointed Public Roads Administration district engineer for West Virginia, succeeding **William Brewster,** resigned. A former Kentucky highway district engineer, Mr. Cobb has been associated with the PRA office in West Virginia since 1935. He is a graduate of the University of Tennessee.

James F. Byrne, chief airport engineer, Massachusetts Aeronautics Commission, has been appointed assistant manager of the Boston airport. Major Byrne supervised construction of Air Force bases in China. He is a graduate of Boston College, and formerly served in the engineering department of Boston.

James Donaldson, city engineer of Menomonie, Wis., has resigned to enter the contracting business with his brother.

E. R. Higgins, a C.E. graduate of Manhattan College, during the war a



W. S. Greene, left, retiring president of the Manufacturers' Division, American Road Builders' Association, congratulates R. K. Stiles, new president of that division, at the recent ARBA Conference and 46th Annual Meeting, Washington, D. C. Both are from Aurora, Ill.

construction officer in the C.E. Corps of the Navy, and latterly with the Port of N. Y. Authority and Starret Bros. & Eken, New York, has joined the Surety Association of America, New York.

Frank Simpson, C.E., has been named manager of the railway lines, steamships and docks in Newfoundland, following its entry into the Canadian dominion, and the taking over by the Canadian National Railway of the lines there. Simpson has had 40 years experience in railway construction, and worked on the Grand Trunk Pacific line from Winnipeg to Prince Rupert.

Howard T. Critchlow, formerly chief engineer of the Division of Water Policy and Supply, of the New Jersey State Department of Conservation, and associated with the state's water supply since 1917, has been named director of that division in the reorganized Department of Conservation and Economic Development, one of 14 principal departments established under the new state constitution. Its divisions are fish and game, planning and development, shell fisheries, veterans services, and water policy and supply. Mr. Critchlow will retain supervision over the engineering activities of his division.

Alan P. Crosby, chief of the administrative division and zoning expert for the Toledo-Lucas County, Ohio, Plan Commission, has resigned to go with the planning section of the U. S. Air Forces. Formerly, he was with the U. S. Engineers in Washington, D. C.

Frank J. Murray, Lorain, Ohio, has been named chief engineer of the highway planning survey in the Ohio highway department. He succeeds C. H. Makeever, named assistant chief engineer of the bureau of planning and programming of the department.

Julian M. Paxton, Hamilton, Ohio, has been named chief engineer of Division 8 of the Ohio highway department in Middletown, replacing **Joseph Unger,** Dayton, the new chief of planning.

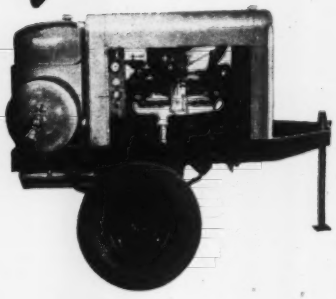
Two New Orleans men retiring from the Army Corps of Engineers have been cited for their long service. They are **Henry D. Moore,** 35 years, and **Wm. J. Johnson,** 32 years.

W. D. Gantt, senior sanitary engineer of the South Carolina Board of Health, has resigned and is now in the U. S. Air Force as a major.

Here's the

COMPRESSOR

for you!



NEW!

. . A new SMITH Compressor with more capacity, smooth operation, economy . . long life!

Powered with a famous CHRYSLER Industrial Engine—3 cylinders for power—3 for compression. Evenly spaced power impulses. Capacity 70 cu. ft. at 80 lbs. pressure. Throttle operates about ⅓ open when operating at 150 lbs. pressure. Built for heavy duty without excess bulk and weight. Engine parts available at Chrysler, DeSoto, Dodge truck dealers.

Write for complete facts about the SMITH Model 250'

***Smith* AIR COMPRESSORS**

GORDON SMITH & CO.

430 College St. Bowling Green, Ky.

Elections and Activities

E. B. Bail, testing engineer of the New Mexico State Highway Department and head of the department's laboratories, has been elected president of the New Mexico Society of Professional Engineers. Other officers chosen were: W. K. Wagner, Albuquerque Sand and Gravel Co.; Don Wilson, Corps of Engineers, vice-president and T. T. Castonquay, secretary-treasurer.

A. H. Winter has been named president of the Victoria, B. C., Contractors' Association, Archie Whiteman elected vice-president, and P. M. Townsend, secretary- treasurer. Directors: Albert Evans, Dave Donaldson, William Bartlett, Herb Bradley, Malcom Browne, J. Kissinger and L. McCrimmon.

An organization of the Seabee Veterans of America is getting underway in Boston with application pending for a Massachusetts charter. It will enroll veterans who served with construction battalions of the U.S. Navy in the war. "Island X-1" in Greater Boston is the first of the organization's "islands" which are being organized also in other states. A national charter will be asked of Congress. William H. Holden is president of the Greater Boston Group.

Julian Garrett of Edmonton, Alta., has been elected president of the Dominion Council of Professional Engineers of Canada, succeeding Prof. F. A. Forward of the University of British Columbia.

E. O. Bryant was elected president of the Western North Carolina Engineers Club at a meeting of the organization at Asheville, N. C., April 11. Other officers: L. L. Merchant, vice-president; R. G. Fortune, secretary; B. J. Sledge, treasurer; and J. P. Dozier and W. W. Dodge, directors.

Marvin Olsen has been elected president of the Dayton chapter of the Ohio Society of Professional Engineers, with Carl N. Lohray, vice-president; William H. Brabson, Sr., treasurer; Fred H. Behrens, secretary; and Stewart Brams and Robert Marsh, directors.

Henry Wolf, Springfield, has been elected president of the Springfield Chapter of the Ohio Society of Professional Engineers. K. B. Skardon, Springfield; North H. Newton, Urbana; and F. R. Lemcke, Yellow Springs, were elected vice presidents; Franklin Landis, Springfield, secretary; J. B. Webb, Springfield, treasurer; M. J. Bahin, Springfield, trustee; and C. J. Bryant, Springfield, and Glenn Muffly, Springfield, alternate trustees.

E. E. Hartford, Martins Ferry, is the new president of the East Ohio chapter of Ohio Society of Professional Engineers, with C. H. Verwohlt, St. Clairsville, vice-president; and C. C. Linard, Bellaire, secretary-treasurer.

W. G. Sloan of Billings, Mont., has been elected chairman of the Missouri Basin Inter-Agency committee, succeeding Maj. Gen. Lewis A. Pick who has become chief of the Army Engineer Corps at Washington, D. C.

Pending amendment of the Philadelphia Section A.S.C.E. constitution and by-laws to permit formation of sub-sections in the area, the Delaware members of the section have organized under the name Delaware A.S.C.E. to carry out the functions of a subsection until a charter can be obtained. It is expected this will be granted next summer. The officers of Delaware A.S.C.E. are: President, Howard K. Preston, University of Delaware; vice-president, Jacob L. Warner, E. I. duPont de Nemours & Co. (retired); and secretary-treasurer, Richard A. Haber, Delaware State Highway Department.

J. A. Lalonde of Quebec City has been elected president of the Corporation of Professional Engineers of Quebec, succeeding J. B. Stirling. The corporation has 3,300 members in the province.

MAJOR MEETINGS

American Water Works Association, Stevens Hotel, Chicago, Ill., May 30-June 3.

President's Highway Safety Conference, Washington, D. C., June 1-3.

Central States Sewage Works Assn., Hotel Sherman, Chicago, Ill., June 17-18.

American Society of Engineering Education, Rensselaer Polytechnic Institute, Troy, N. Y., June 20-24.

Symposium on Research in Water, Sewage and Industrial Wastes, sponsored by Public Health Service, Dept. of Commerce Auditorium, Washington, D. C., June 23-24.

American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J., June 27-July 1.

American Society of Civil Engineers, Hotel Prado, Mexico City, July 13-15.

Pan American Engineering Congress, Rio de Janeiro, Brazil, July 15-24.

IT ADDS UP

Versatility (6 machines in one)
Mobility (fast between jobs)
Productivity (capacity: 60 yds./hr.—5-ton crane)

MORE PROFIT ON SMALL JOBS

Model M-49

The Schield BANTAM is a versatile time-saving money-maker on a wide variety of jobs. Use it as a shovel, trench hoe, dragline, clam, piledriver or 5-ton crane. Interchangeable booms and buckets are installed in minutes. Split type laggings permit proper line speeds and assure high performance on all operations. *Independent boom hoist* allows boom to be powered up or down, or lowered on brake for fast operations. The BANTAM mounts on any 1½-ton truck chassis or larger for maximum mobility. Drives up to the job and digs in. When it finishes one job it rolls on to the next without delays. No costly loading and blocking expense.

Designed for steady going at a profit-making pace, the BANTAM has a capacity of 60 yards per hour when used as shovel or dragline. As a trench hoe it will dig 100 feet of 5 foot ditch per hour. Built tough where wear is heaviest, rugged where strength is needed. Jack, drum, and swing shaft assemblies are mounted on Timken tapered roller bearings. Drums, swing gears, and vertical swing shaft roll on sealed-for-life ball bearings. All gears and pinions are machine cut. Smooth operating mechanical "snap-in" clutches reduce operator fatigue. Turntable base design protects bull gear from dirt and grit, and modern hook rollers cut maintenance costs by minimizing strain on center pin and wear on turntable roller bushings.

Get complete facts on the BANTAM. Find out how its design and operating features can make small jobs pay bigger profits. Write for new literature now.

SOLD AND SERVICED BY LEADING CONSTRUCTION MACHINERY DISTRIBUTORS THROUGHOUT THE UNITED STATES, CANADA, AND FOREIGN COUNTRIES

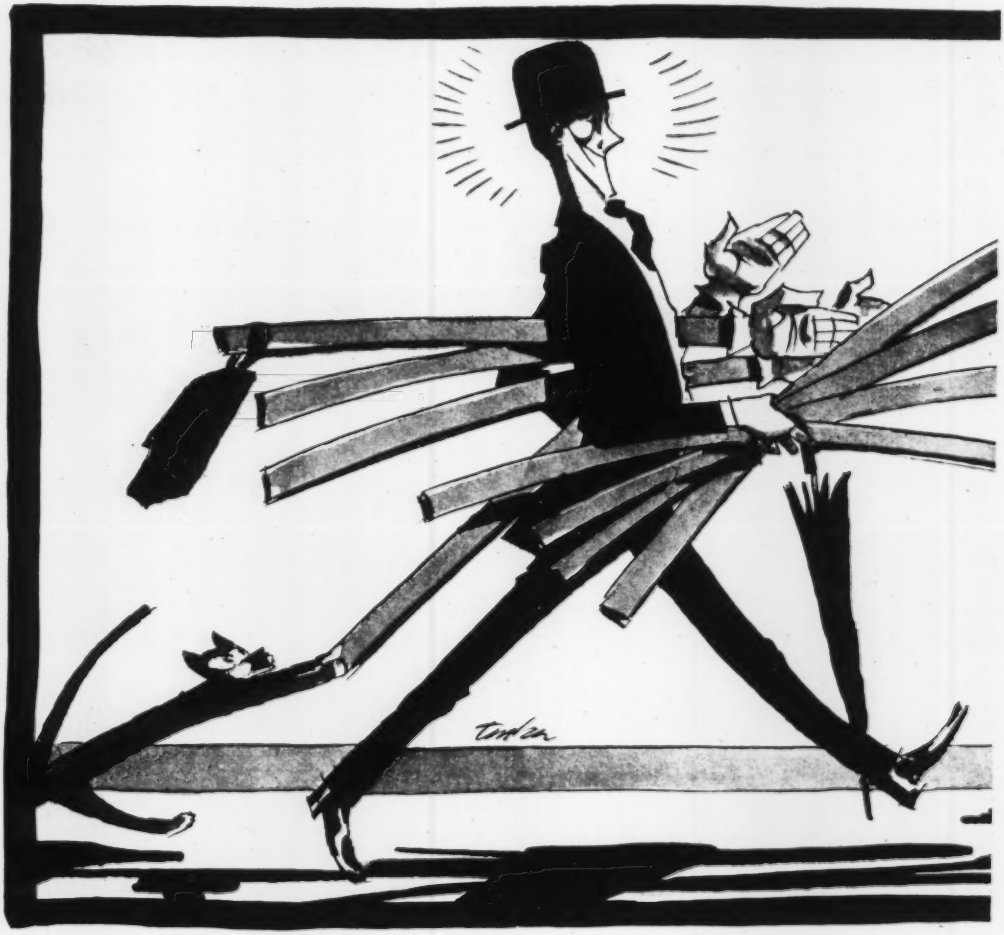
THE SCHIELD BANTAM CO., INC.
201 PARK STREET • WAVERLY, IOWA

THE 1/3 YARD SCHIELD BANTAM

TRUCK MOUNTED SHOVEL • TRENCH HOE • DRAGLINE • CLAM • PILEDRIVER • CRANE

How many hands can an

(AN AD ABOUT EXTRAS)



WE'RE about the *handiest* company to have around you've ever seen!

One welcome hand we offer comes at the end of the year ...holding a nice, fat dividend check!

American Mutual has the best long-time record in the field for this kind of savings... 62 years of sending money your way!

We've got another hand just itching to serve you... a hand that's helped reduce premiums for some contractors as much as 34% below the average rate.

We call this our Special Engineering Construction Service ...and we defy anyone to find a better aid in helping reduce accidents and speeding up work!

We've got a hand that's ready to protect your company against every possible hazard... including getting bitten by sharks in Iowa! (Rare)

And one of the fastest hands we offer is the one that settles claims!

"Prove it," you say... and we will! Just recently a policy holder had a bad accident. Eight minutes later an American Mutual man was on the scene... In less than 30 minutes everything was settled!

AMERICAN MUTUAL... *the first American liability insurance company*

© 1949 AMERICAN MUTUAL LIABILITY INSURANCE COMPANY

Insurance Company give you?

by Mr. Friendly

We draw the line, however, at making settlements *before* the accidents occur!

The point is . . . with 73 offices in major cities throughout the country, we're always close at hand and always ready to serve you in the best possible way!

And, just as a clincher, may we remind you that you get this service at no extra charge with every industrial policy!

A M

P. S. We'd also like to *hand* you 2 free illustrated text books. Send today for "Surface Construction Without Accidents" and "Foremanship and Accident Prevention in Construction."

MAIL THIS COUPON NOW—WITHOUT DELAY!

Dept. O-85, American Mutual Liability Insurance Company
142 Berkeley Street, Boston 16, Massachusetts

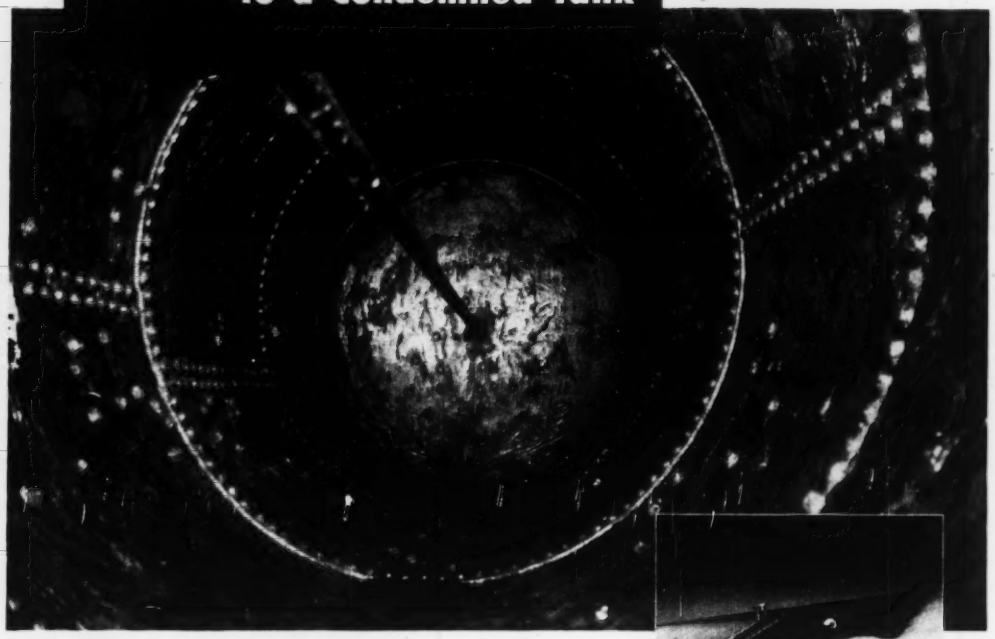
Without obligation, please *rush* to me more information on the All-American Plan, so that I may be richer and happier!

Name _____

Street _____

City _____ *State* _____

NO-OX-ID Added 15 Years to a Condemned Tank

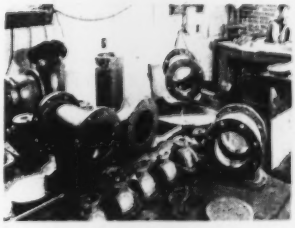


● NO-OX-ID coatings prevent loss of finished water through cracks and joints, stop pitting and cavitation.

IN 1922, insurance inspectors condemned this elevator service tank because of its rusted condition. To recondition it, the 128 rust pits were plugged and the inside of the tank given a well-rubbed-in coating of NO-OX-ID "A."

Subsequent inspections 3 years, 15 years, and 25 years later indicated that no repairs were necessary, no additional coatings needed. NO-OX-ID prevented further corrosion and the coating is in as good condition as when applied. NO-OX-ID had absolutely arrested corrosion on the surface of the metal.

Such stories are not unusual where NO-OX-ID is applied. NO-OX-ID "A" and "A Special," and NO-OX-ID Water Works #2 and #6, cut maintenance costs, and add years to service life of new and old equipment.



● NO-OX-ID's chemical inhibitors save replacement and repairs to valves and fittings, preserve new installations indefinitely.

NO-OX-ID IRON RUST

Dearborn
Reg. U. S. Pat. Off.

THE LEADER IN RUST PREVENTIVES AND BOILER WATER TREATMENT

DEARBORN CHEMICAL COMPANY

310 S. Michigan Ave., Chicago 4 • 807-15 Mateo St., Los Angeles
205 E. 42nd St., New York • 2454 Dundas St., West, Toronto

ENGINEERING SCHOOLS

Research Projects

A timber research project to determine the effect of long-term loads on full-size timber trusses is to be undertaken by the school of civil engineering, Georgia Institute of Technology, under the direction of M. W. Jackson, assistant professor.

It is proposed to test full-size timber structures under long-term dead loads. One pair of trusses of the Warren parallel chord type, span 27 ft., depth about 4 ft., will be constructed and tested. This will be followed by construction of similar designs of bolted and nailed trusses for comparison and to test alternate designs for the same type using ring connectors.

Trusses will be tested in pairs, suitably spaced as required in the design. Each will serve as a brace for the other and data for one will serve as a check on the other. A plant roof will be constructed and used for loading. A low concrete pedestal will support one end while wood posts will be at the other end. Deflections will be measured frequently during the month each load is applied. One-half design load will be applied initially to stabilize the truss. This will be followed by full design load and then increments of one-quarter design load until failure occurs.

Civil engineers in Northwestern University's Technological Institute have just completed the design and development of a new research apparatus which may lead to redesigning the curvature of passages in dams, pumps, or turbines for greater durability.

The Northwestern researchers will study cavitation, a process in which bubbles suddenly form in a flowing liquid and then collapse with the violence of an explosion, driving molecules of water (or other liquid) against the wall of the container, dam or pump, and forcing out chips of metal or concrete.

These bubbles, or vapor pockets, in flowing result when sudden lowering of pressure in one spot causes the water to boil. Not only have walls of conduits in dams and turbine blades been torn away by the continued occurrence of cavitation, but ship propellers have had to be repaired or replaced as holes were worn in them.

Wallis S. Hamilton, associate professor of civil engineering, with graduate assistants Elmer Beck and A. N. Harkauli, are seeking to minimize the harmful effects of cavitation on metal walls by means of a unique mechanism. At the top of a glass cylinder, cavities can be formed by the motion of a piston driven by an electric motor.

Thus cavitation may be watched and one material after another tested for damage when the collapse of the cavity is not directly against it. This will determine which materials can and which can not stand cavitation anywhere near them, and how close permeable materials such as concrete can be to cavitation without damage.

"By changing the curvature of the walls, using materials found to be the most impermeable, and directing bubbles away from the walls before the bubbles collapse," Prof. Hamilton said, "we hope to design machinery which will operate without damage, even though cavitation occurs."

Construction was started recently on the new Association of American Railroads research laboratory on the campus of the Illinois Institute of Technology, following award of the contract to Federal Constructors, Inc., Chicago. The building is near the northwest corner of the projected 110-acre Illinois Tech campus development. It will run north and south along Federal Street between 31st and 32nd Streets. An impact test track will be built along the New York Central tracks west of the building. Dimensions of the structure will be 218 by 50 ft., with two stories and a full basement. Total cost, including utility lines, landscaping, tracks, and equipment, will be $600,000.

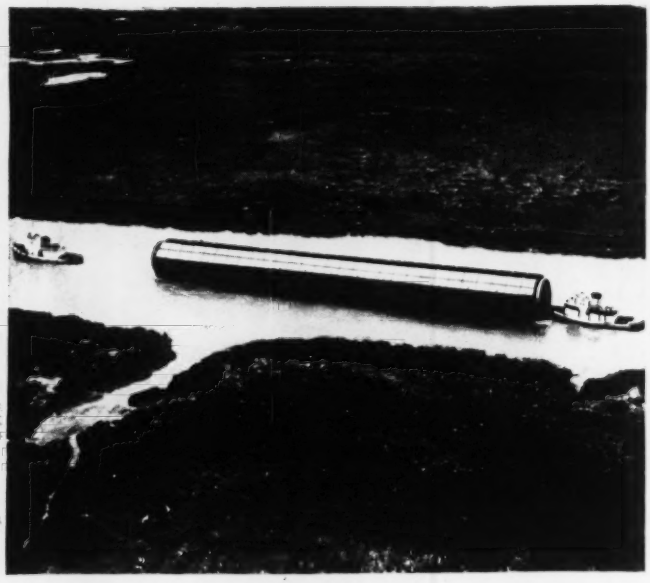
Last month there was opened at the University of Toronto a $1,000,000 building in the basement of which is a fully equipped river laboratory where 9,000 gpm. of water can be made to flow through large scale models of river beds and past model dams. A section of the Nipigon River has been constructed in miniature and model logs are being sent down its miniscule cascades just as actually happens each spring in the real river.

Educational Notes

Manhattan College, Riverdale, N. Y., has formally approved the election of Brother Amandus Leo, F.S.C., dean of the school of engineering, as secretary-treasurer of the Association of Engineering Colleges of New York State. Brother Leo succeeds J. H. Belknap, dean, division of engineering, University of Rochester.

Stevens Institute of Technology, announced April 23 that the Board of Trustees has voted to increase the tuition fee from $300 to $350 for each term of academic study, effective next September.

BUILDING A BALLOON HOUSE—This rubber and fiber-glass hemispherical shelter will house Air Force radar equipment at Red Bank, N. J. Called a Radome, it is anchored to concrete and inflated like a vacuum cleaner bag. Though feather-light, it is expected to withstand 140-mph. winds. Inflated, it can sustain three tons of snow or ice. Inside there are no columns. It is held up because the air pressure inside exceeds the outside atmospheric pressure. Entrance is obtained through a tunnel in which airlocks are installed. The designer is the Cornell Aeronautical Laboratory, Inc., of Buffalo, N. Y. (World Wide Photo)



SEA GOING TUNNEL

This unusual welded steel structure—section of a new traffic tunnel to be built under the Houston Ship Channel—was fabricated by Ingalls at our Pascagoula, Miss., shipyard. Four of these 490-ton sections were launched like ships and floated 400 miles to Texas via intra-coastal waterway and the Gulf of Mexico.

Such out-of-routine steel work shows the adaptability and completeness of Ingalls' fabricating facilities. Let our modern methods and years of experience in all phases of steel fabrication save you time, trouble and money. Inquiries answered promptly. Write, wire or telephone for information.

STRUCTURAL STEEL • PLATE WORK
STAINLESS STEEL • STORAGE TANKS
SHIPS & SHIP CONVERSIONS • BARGES
WORK BOATS • WAREHOUSE STEEL

INGALLS
STEEL

THE INGALLS IRON WORKS CO., THE INGALLS SHIPBUILDING CORP., The Steel Construction Co., Birmingham Tank Co. MAIN OFFICE, BIRMINGHAM, ALA. Sales offices at Chicago, Pittsburgh, New York and New Orleans. Fabricating plants at Birmingham and North Birmingham, Verona, Pa., Pascagoula, Miss., and Decatur, Ala.

OBITUARY

William P. Ogelsby, an engineer, died May 7, at Bryn Mawr, Pa. He was with A. Stewart Jellett Co., Philadelphia, and was a graduate of the University of Pennsylvania.

David C. Jimmerson, Sr., 52, civil engineer and construction staff officer of the Public Roads Administration, died at Atlanta, Ga., May 3.

Robert Lee Ettinger, 86, engineer and retired assistant vice-president of the Southern Railway system, died May 7 in Washington, D. C. He began his career as a draftsman with the C&O Railroad. He went to Washington in 1904 to join the Southern as a consulting engineer.

Victor Henderson, 65, retired superintendent of highways at Dearborn, Mich., died May 9 in Upland, Pa.

Fred C. Albert, 58, former chief hydraulic engineer and assistant general manager of the Loup River Public Power District, died at Lincoln, Neb., May 9.

John Claus, 79, general superintendent of the H. J. Spieker Co., Toledo, Ohio, construction firm, for 50 years, died May 11. He supervised construction of the Toledo Museum of Art; the University of Toledo, and several high schools, and hotels.

William Mason Clapp, superintendent of the city disposal plant in Rochester, N. Y., died May 10. He was a graduate of Syracuse University.

Frank R. Cox, 63, road designing engineer with the Nebraska State Highway Department, died recently at Lincoln. He joined the department in 1936.

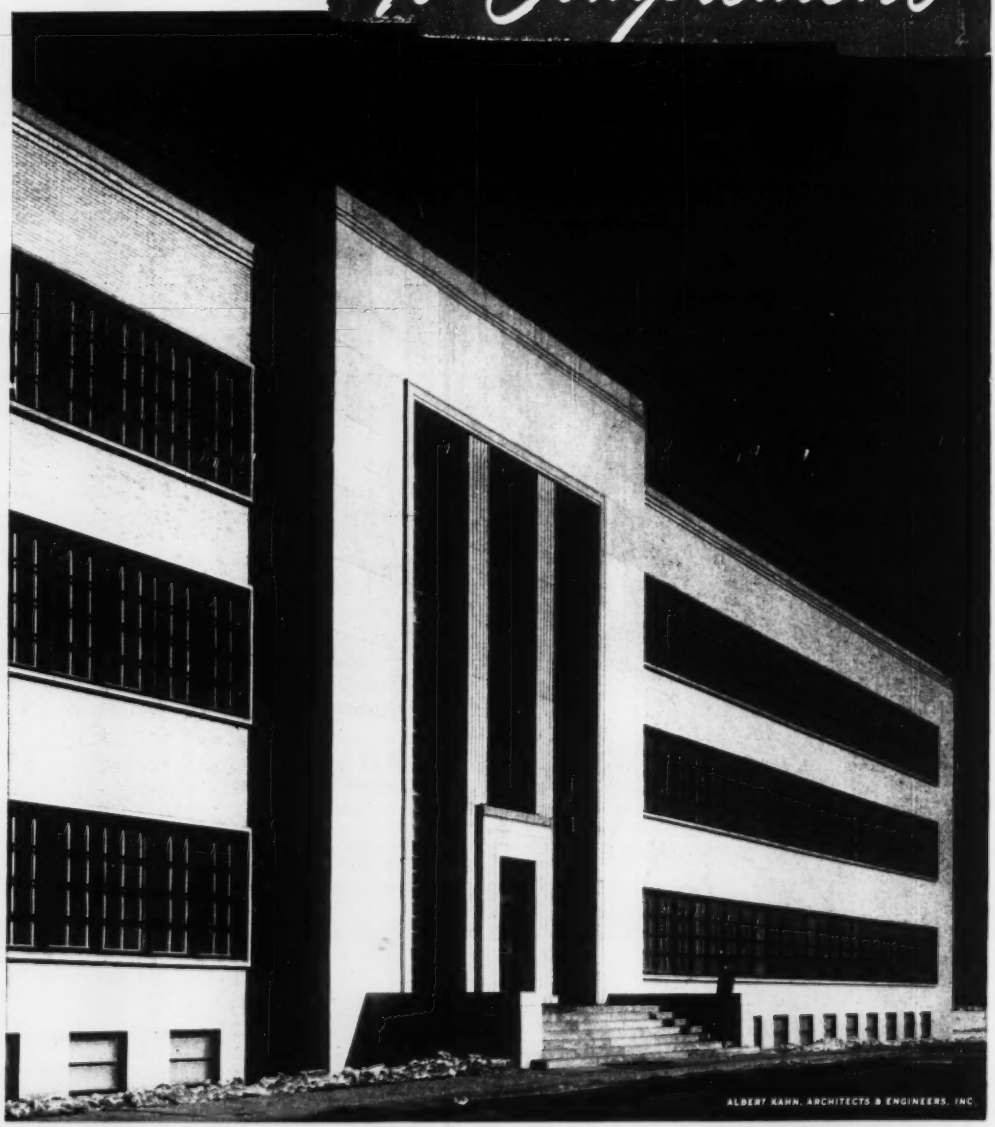
James R. Costin, 80, retired contractor and surviving member of Costin Brothers, Bellefontaine, O., construction firm, died May 15.

Edgar K. Ruth, 63, general housing manager of the Cincinnati Metropolitan Housing Authority since July, 1946, died May 19 in that city of a heart attack. He had been an assistant professor in the college of engineering at the University of Cincinnati from 1916 to 1920.

Dale G. Mitchell, 37, superintendent of the Lewes, Del., Board of Public Works, died suddenly of a heart attack on May 17 at home.

New Savings with
PREFORMED
WIRE ROPE
For the few who haven't used it—but who will —Preformed wire rope promises the same kind of savings in time and money that regular users have enjoyed since 1934.
Preformed lasts longer, thus costs less to use. It saves time and money in installation and operation. It is safer to use and reduces safety costs.
So, for new savings, see your wire rope manufacturer or supplier about Preformed wire rope.

To Complement



In construction products **CECO ENGINEERING**

a Monument...

CECO Architectural Projected Windows

In keeping with architectural design, monumental buildings need windows that complement their structural magnificence . . . windows designed architecturally with an eye to good appearance. Ceco's Architectural Projected Window is just such a window. From every angle, here is outstanding beauty . . . complete utility. In Ceco's Architectural Projected Window, the sections are designed for maximum strength—the arrangement of glass lights makes for maximum beauty. Consider these features:

1. The frame section is 1⅜" deep. The ventilator section is 1½" deep. The extra ⅛" added to the ventilator depth provides the strength so necessary for proper window performance.
2. The frame and ventilators are welded at all four corners.
3. Standard hardware is solid bronze.
4. Easy to screen . . . a great convenience in public buildings, schools, and commercial and industrial buildings.

Yes, from every angle, here's a handsome window with every utility. So, specify Ceco Architectural Projected Windows, for no matter what the architectural design, Ceco has the right window for you.

Ceco Architectural Windows are constructed of hot rolled sections, bonderized and especially designed to provide rigidity and good weathering performance. Suitable for public, commercial and industrial buildings . . . designed to provide weather protection when open . . . adaptable to screening with Ceco standard screens, since each ventilating sash projects on only one side of window.

CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 West 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities

CECO STEEL

makes the big difference

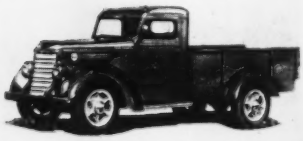
Partial List of Ceco Products

METAL RESIDENCE CASEMENTS • INDUSTRIAL WINDOWS AND DOORS • METAL FRAME SCREENS • ALUMINUM FRAME STORM WINDOWS • ALUMINUM COMBINATION STORM WINDOW AND SCREEN UNITS • METAL LATH AND ACCESSORIES • STEELFORMS • REINFORCING BARS STEEL JOISTS AND ROOF DECK • HIGHWAY PRODUCTS

NEW PRODUCTS

High Speed Asphalt Mixer

The asphalt mixer pictured above has high speed, large mixing capacity, low weight, portability and multi-purpose uses. All proportioning of aggregate and aspialt is volumetrically-controlled. The machine can be adapted for use as a mix-spread unit in which the aggregate and asphalt are fed and proportioned from the dump truck into the mixer, mixed and discharged on the road surface at a rate up to 1 ton of mixture per minute. Mixer can be used to combine aggregates with emulsified asphalt, cutback asphalt, tar, and if the aggregate is dried and heated, hot asphalt may be used. This plant can be used for new construction, wedge courses for old roads, patching and base construction. Other sizes are available in 2, 4 ,6 and 10-ton per minute capacities.—K. E. McConnaughay, West Lafayette, Ind.



Utility Express Truck

This truck with 135-in. wheelbase is equipped with a 9-ft. heavy duty, all-steel utility express body with 16-in. sides, 5-in. flares and double-acting tailgate. Available with single rear tires only. It has an all-steel unobstructed corrugated floor to allow for extra loading space. 8-in. skirt on both sides and end of body.—Federal Motor Truck Co., Detroit, Mich.

Stainless Steel Electrode

A 316-CF stainless steel electrode has been developed to weld type 316-ELC stainless steel now produced in sheets, bars and plates. The carbon content is only .03 percent max. So it is possible practically to eliminate intergranular corrosion in the zone adjacent to the weld and in the weld deposit because carbide precipitation is prevented. — The Champion Rivet Co., Harvard Ave. & E. 108th St., Cleveland 5, Ohio.

Rotary Concrete Drill Bit

This RCD drill bit is handmade from high grade steel with heat treated special carbide cutters set in and brazed to the blunt end of the bit shaft. The unique blunt end design of the RCD drilling bits enables them to drill right through gravel or rounded rocks in concrete rather than being deflected around them. The design also reduces breakage to a minimum. —Rotary Concrete Drill Co., 650 S. Arroyo Pkwy., Pasadena, Calif.

Roof Construction

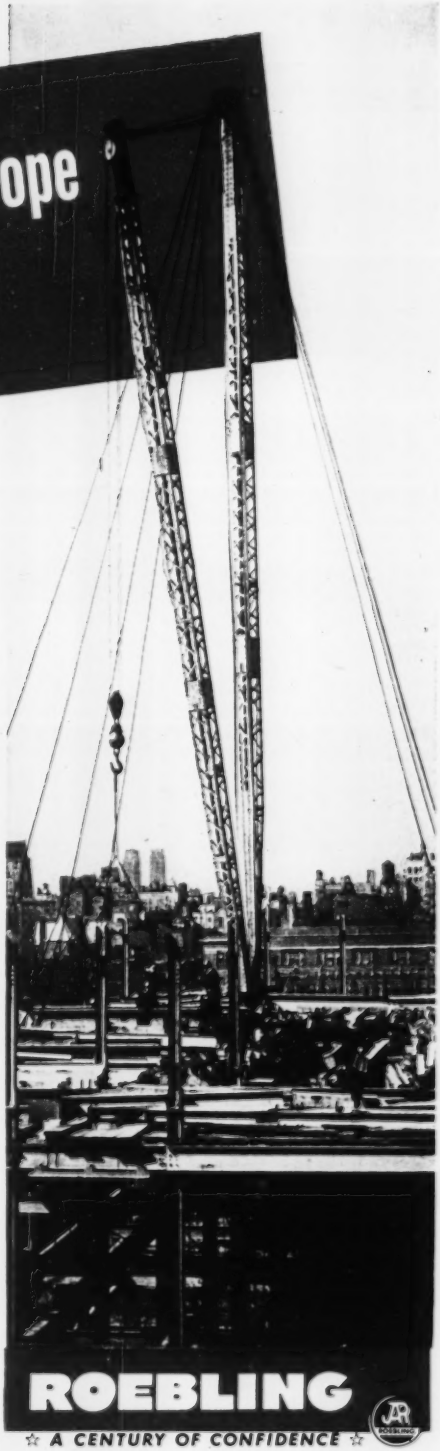
The lengths and cuts of all roof rafters are calculated quickly and accurately with a new circular-slide-rule type instrument made of Vinylite rigid plastic. Printed on the flat instrument is a diagram of a roof. By merely setting two dials you produce, at arrows on the diagram, the exact readings for the lengths and angles of the various kinds of rafters required. The two dial settings indicate the length of common rafters, length of hip and valley rafters, length of shortest jack rafter (16 or 24 in. apart), top and bottom cuts of common rafters, top and bottom cuts of hips and valleys, side cut of hip against ridge board and side cuts of jack against hip. The rigid sheet Vinylite plastic instrument also makes it possible to design a roof with any pitch from 14 to 57 degrees as well as the standard pitches, and to convert angles in degrees for marking on the carpenter's square. The instrument is less than $\frac{1}{8}$ in. in thickness, 6¼ x 8¼ in., and weighs less than 2 ounces so that it can be conveniently tucked into a coat pocket, briefcase, or tool chest. For sale by—Edward Weyer, 40 W. 77th St., New York 24, N. Y.

Concrete Sprayer

Devere Sprayer covers every square inch of surface, systematically and scientifically. The unit features 8 spray heads which simultaneously treat a 6-ft. strip of concrete. It is claimed that one man can treat as much concrete in 20 minutes as can be done in a half-day by one man using old-fashioned methods. An extra side nozzle is provided for spraying edges of concrete surfaces, generally difficult areas to cover thoroughly. Standard equipment also includes 50 ft. of hose, together with a single nozzle boom for spraying inaccessible places such as curbs, gutters, doorways, etc.—Devere Co., Racine, Wis.

(*Continued on p. 45*)

Cut costs with the rope that lasts longest



Contractors are saving with Preformed "Blue Center" Wire Rope

WHEN YOU ASK "HOW LONG," don't think merely of a rope's length; think of how long it will stay on the job! The rope that lasts longest, costs you the least . . . and that's why contractors are turning to Roebling Preformed "Blue Center" Steel Wire Rope. "Blue Center" Steel – made only by Roebling – gives wire rope *extra* ability to withstand strain, abrasion and shock loads.

PREFORMED SPEEDS OPERATIONS, TOO. Roebling Preformed saves handling and installation time because it is not inclined to set or kink. You can cut it without seizing, and there's less trouble in applying fittings. In operation, Preformed is largely free of vibration and whipping . . . gives top performance despite severe bending, small sheaves and reverse bends.

FREE ENGINEERING SERVICE. Have your Roebling Distributor help choose the *right* wire rope for genuine economy on your equipment. If you have any special problems in the selection, installation or maintenance of wire rope, your Distributor will promptly get the assistance of a Roebling Engineer. John A. Roebling's Sons Company, Trenton 2, New Jersey.

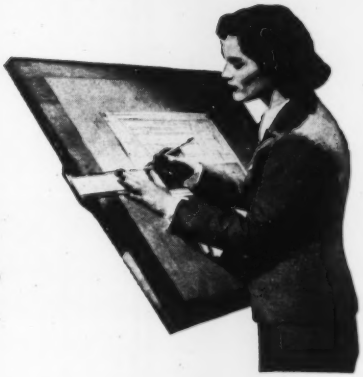
WRITE OR CALL THE ROEBLING FIELD MAN AT YOUR NEAREST ROEBLING OFFICE AND WAREHOUSE

Atlanta, 931 Avon Ave. ★ ***Boston***, 51 Sleeper St. ★ ***Chicago***, 5525 W. Roosevelt Rd. ★ *Cleveland*, 701 St. Clair Ave., N. E. ★ ***Denver***, 1635 17th St. ★ ***Houston***, 6216 Navigation Blvd. ★ ***Los Angeles***, 216 S. Alameda St. ★ ***New York***, 19 Rector St. ★ ***Philadelphia***, 12 S. 12th St. ★ ***Pittsburgh***, 855 W. North Ave. ★ ***Portland, Ore.***, 1032 N. W. 14th Ave. ★ ***San Francisco***, 1740 17th St. ★ ***Seattle***, 900 First Ave.

ROEBLING

☆ *A CENTURY OF CONFIDENCE* ☆

When you need copies...



You need OZALID!

Duplicate in seconds! Simply put your original against a sheet of Ozalid material and feed into the Ozalid print-making machine. An intermediate step is necessary only with absolutely opaque originals.

Change in seconds! Make alterations or additions on your translucent Ozaprint... transfer title blocks or even whole sections... then you can use the changed print as a master!

Combine in seconds! Make prints of your material on transparent Ozalid film, overlay them on a sheet of Ozalid material (paper, cloth, foil, or film), feed into the Ozalid machine for a composite print in 25 seconds!

Replace in seconds! Use any translucent Ozalid print for a duplicate master. Make shop or field prints on Ozaplastic. Clean with a damp cloth.

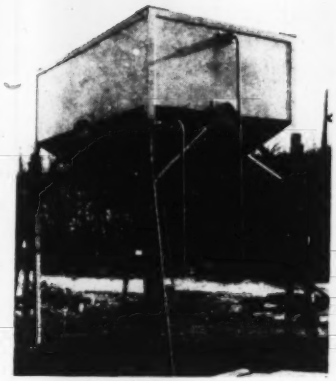
Color Code in seconds! Ozalid materials offer black, blue, red, or sepia lines on white or tinted backgrounds. Light, standard, and heavyweight papers are available for any job.

Anyone can make prints with Ozalid in seconds! Reproduction can be made any length and almost any width. All Ozaprints are made in the same manner – all are delivered dry, positive, and ready to use.

Write on your letterhead for a FREE booklet that tells the full Ozalid story. Or consult your classified directory for local distributor.

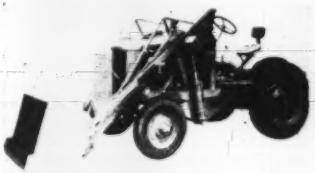
Don't copy... use OZALID!

Johnson City, N. Y. Dept. 68
A Division of General Aniline & Film Corp.
"From Research to Reality"



Aggregate Bin

This standard 3-compartment, 21 cu.yd. aggregate bin is 8 x 12 ft. and stands 16 ft. high. Truck clearance is 8 ft. A 1-compartment bin 10 ft. square is also made.—New Holland Mfg. Co., Mountville, Pa.



New Shoveloader

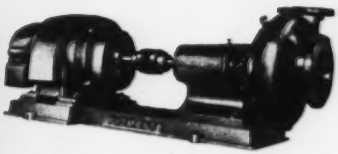
Outstanding features of the new Model 3-A Shoveloader for mounting on the Case VAI tractor include automatic scooping-action, split-second or slow dump, and the design which keeps the load in balance and free from spillage after the bucket is filled. The loader has a maximum lifting capacity of 1,800 lb. and can be equipped with either a ¾-cu. yd. material bucket or a 2-1 cu. yd. snow bucket.—Lull Manufacturing Co., Minneapolis 6, Minn.

For Ducts in Concrete

"Ductube," a precise pneumatic rubber tubing, molds smooth bore ducts of uniform diameter in floors, walls, columns, beams, or slabs, either straight or curved. For power, light, and telephone lines—also for drains, grout holes, air radiant heating, and cooling purposes. "Ductube" eliminates bending and fitting of pipe or conduit. It is deflated and pulled from the molded ducts as soon as the concrete has set. It can be used over and over again indefinitely.—Ductube Co., Shoreham Bldg., Washington, D. C.

(Continued on p. 49)

THREE SIMPLE, FINAL ANSWERS TO "WHAT'S THE BEST WAY TO PUMP SEWAGE?"

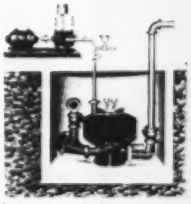


YEOMANS CENTRIFUGAL —*HORIZONTAL*

If an ample dry-pit can be provided, this is the right pump—with pump and direct connected motor on a common bed plate, located to avoid suction lift. Initial cost is low, it is easy to install and maintain. It is rigid, and misalignment in shaft and bearings is virtually impossible.

YEOMANS CENTRIFUGAL —*VERTICAL*

Where possibility of flooding the pit makes it unwise or too costly to install motors and controls, or when deep incoming sewers or other factors limit the size of the pit, the vertical pump is a practical solution. Pumps may be connected by vertical shafts to motors on an upper level; and dry-pit pumps with suction piping to an adjoining collection well is preferable to submerged pumps.



SHONE PNEUMATIC EJECTOR

Where gallonage of sewage is so small as to make a centrifugal pump physically impractical, where attention and maintenance must be held to a minimum—the world-wide ideal answer is the trusty efficient Shone Pneumatic Sewage Ejector. This famous unit has a 70-year record of efficiency in handling raw sewage and sludge, in municipal systems, urban buildings, industrial plants. It is particularly appropriate where compressed air is used for other purposes.

These three respected units are alike in this: Yeomans designed them and Yeomans builds them — facts which in themselves are sound evidence of thorough engineering and good workmanship. Bulletins on these pumps contain selection tables and helpful engineering data — good literature to have on hand. The coupon makes it easy to get them.

YEOMANS

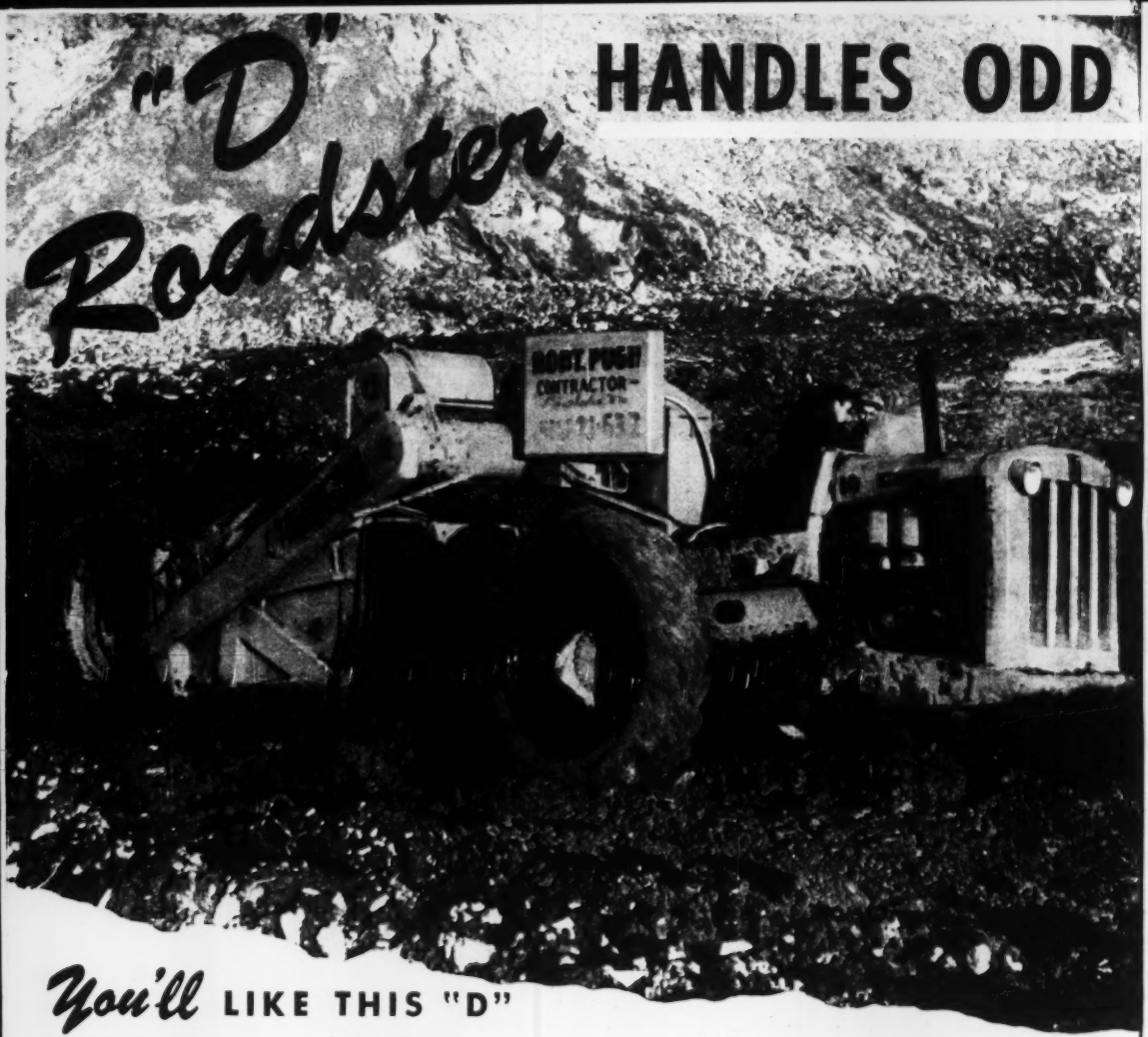
YEOMANS BROTHERS COMPANY
1445 North Dayton Street, Chicago 22, Illinois

Please send bulletins checked:

Yeomans Centrifugal Sewage Pumps — Horizontal and Vertical ☐ Bulletin 6203
Shone Pneumatic Sewage Ejector ☐ Bulletin 4004

Name .....
City ..... State .....

"D" Roadster HANDLES ODD



You'll LIKE THIS "D" BECAUSE you get...

- **Self-loading** for economical 1-man operation on utility dirtmoving.
- **Ample 7-yd. capacity,** big enough to work profitably with pusher-loading in fleet operation.
- **25 m.p.h. speed** for faster job cycles... on-the-job moving... job-to-job travel.

For complete facts, call your nearest LeTourneau Distributor.

On 54,000-yard secondary road

Robert Pugh had only 174 work days to complete 54,000-yard highway relocation near White Sulphur Springs, W. Va. He added a high-speed "D" to his equipment fleet, and in spite of bad weather, finished project 100 days ahead of schedule. Pugh handled this secondary road job in shale, clay and gravel, with 3 crawlers and the rubber-tired "D". Heavy rain cut operating time to average of 4 days a week. Borrow pits, roads and fills were soaked most of the time. In soupy, wet mud, Roadster "walked" through with full loads, moved ⅓rd *total yardage.* Pugh said, "It will work in any conditions a tractor-scraper will, can be operated and maintained for ¼th the cost!"

LETOURNEAU PEORIA, ILLINOIS — HIGH-SPEED RUBBER-TIRED **TOURNAPULLS**

MORE WORK PER HOUR WITH RUBBER-TIRED POWER

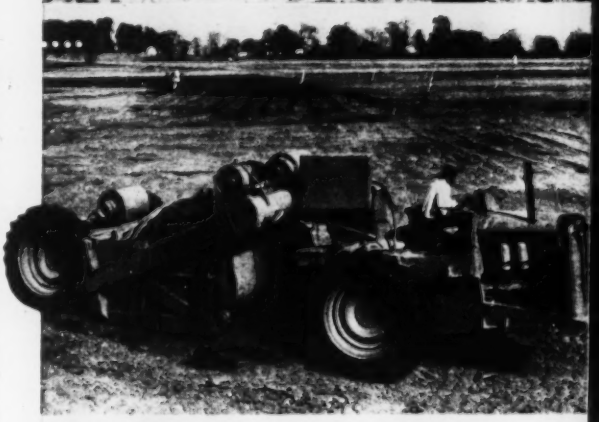
JOBS on PRODUCTION BASIS

On 1600-yard dam

Contractor Loren McLaury of Parkston, South Dakota, used a one-man D Roadster to build an earthfill dam for the AAA near Corsica. High-speed "D" quickly excavated a core trench in 2½ hours . . . then completed 1600-yard fill in just 17 hours. Material, black loam and clay, dry and hard, was self-loaded. Average cycle was 800′. Production for job averaged 94 cu. yds. per hour. Big tires (14.00 x 32) gave excellent compaction on the fill as Roadster spread material in thin, accurately controlled layers. Operator drove the highly mobile "D" into the job over county and state roads, drove it out after job was completed. No special hauling equipment was needed.

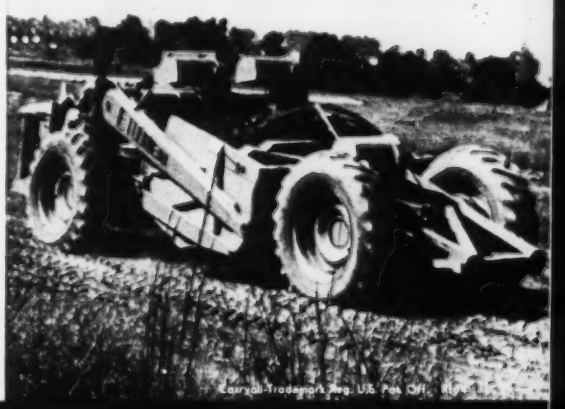
On 45,000-yard plant site

Roy Kohl, Ohio contractor, brought in a D Roadster on a 45,000-yard contract for an industrial plant site at Yellow Springs. Sloping field had to be leveled . . . railroad siding graded . . . reservoir excavated and diked with a 1600-foot retaining wall. Here's how Kohl's "D" compared with a 107 h.p. tractor and 8-yd. Carryall: On short 400′ cycles, the 100 h.p. "D" self-loaded 5.5 pay yards each load . . . averaged 25 loads for 137.5 pay yards an hour. That equalled production of the bigger crawler-scraper combination, which averaged 17 trips, 136.8 yards for same period. However, on 1900′ cycles, fast, rubber-tired "D" made 16.5 trips to crawler's 10 . . . moved 90 pay yards to crawler's 80 . . . an increase of 12.5%.



Small-yardage leveling job

Sam Glasgow had several small-yardage assignments on construction of a Philadelphia factory site . . . odd dirtmoving jobs too costly to handle with other equipment. Glasgow put a 7-yard D Roadster to work stripping top soil and building access roads into the site. He found it could get around the job fast, at 25 m.p.h. . . . self-load handily in the sandy clay. On 1700′ one-way hauls, the rubber-tired "D" dug, hauled and spread 10 loads an hour over rough going and through soft spots. Output for this one-man dirtmover was 50 pay yards per hour . . . a very profitable figure for these small-yardage assignments which are always the highest-cost dirt to move on any job.



Carryall-Trademark Reg. U.S. Pat. Off.

To: R. G. LeTOURNEAU, Inc., PEORIA, ILL. Please send information on "D" ROADSTER:

☐ Specifications ☐ Price ☐ Delivery ☐ Would like job analysis on present operations

NAME..... TITLE.....

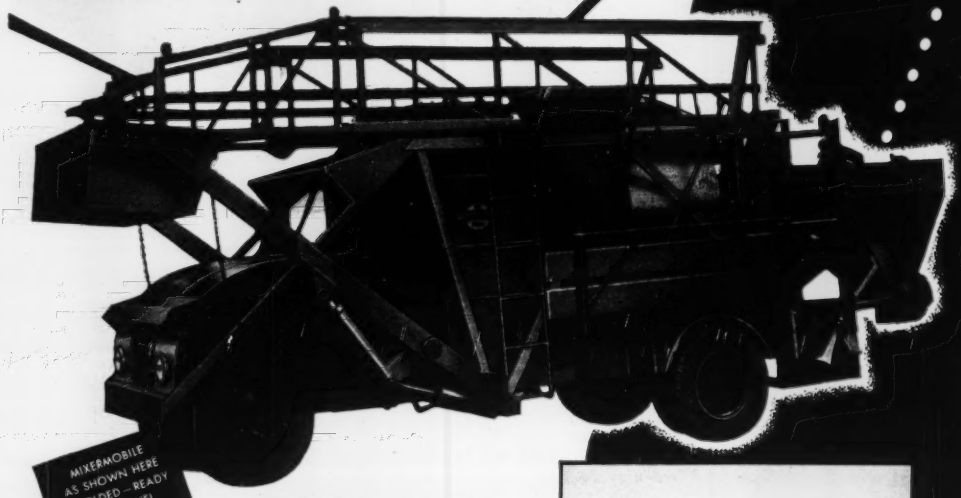
COMPANY..... TYPE OF BUSINESS.....

STREET..... CITY, STATE.....

Would also like information on ☐ 13.3-yard "C" TOURNAPULL ☐ Big 30-yard "B" TOURNAPULL

It's New.. the one-yard MIXERMOBILE

A complete mobile concrete mixing unit and elevator



MIXERMOBILE AS SHOWN HERE IS FOLDED—READY FOR TRAVEL

GREATER PROFIT ON EVERY JOB...

The new one-yard Mixermobile Model M-6 built to fit all jobs, both small and large. Its complete mobility means more jobs covered every day.

SAVES money by using dump trucks—mixes concrete on the job.
SAVES cost of erecting tower—35-ft. tower attached.
SAVES cost of hoist and storage hopper—included with tower.
SAVES time—drive to the job, ready to mix in five minutes. When pouring is finished drive to next job.
Turns out 200 cubic yards of concrete per day.

Use MIXERMOBILE — the most economical method of handling concrete on the job. Cuts labor costs—no time wasted waiting for concrete. One man operates complete unit.

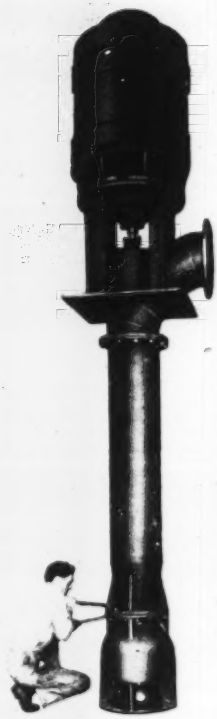
FEATURES: HYDRAULIC CONTROLS.
MIXER COMPLETELY ENCLOSED—controlled by specially designed shaft (gears enclosed on outside, no contact with cement.)
POWERED BY V-8 FORD ENGINE.
DISCHARGE TIMER
FOOL-PROOF WATER CONTROL SYSTEM.
WEIGHT— 20,000 lbs.
Will pass all highway limitations.

WRITE TODAY FOR LITERATURE AND YOUR NEAREST DEALER

- 35-FT. TOWER lifts concrete in hoist bucket and empties into tower hopper. Eliminates cost of cranes and moving to and from the job. Extension may be had by special order.
- HYDRAULIC CONTROLLED SKIP holds 1 cu. yd. Loaded directly from dump trucks.

MIXERMOBILE MANUFACTURERS

6855 N. E. HALSEY STREET, PORTLAND 16, OREGON



Cooling Tower Pumps

A complete new line of single and multi-stage vertical circulating pumps for cooling towers is being offered. They are grouped as smaller sizes from 5 to 12 in. and as larger sizes above 12 in. The smaller sizes—from 5 to 12 in. are available in capacities from 20 to 3,000 gpm. at heads required, the larger sizes in capacities of 1,500 gpm. and up at heads required. Designed primarily as cooling tower pumps, these large vertical pumps are suitable for many heat-exchange applications where medium to high capacity pumps are indicated. Also for contractor's use as dewatering pumps, river intake pumps, and as drainage pumps.—Byron Jackson Co.—Pump Division, Terminal Annex, Box 2017, Los Angeles 54, Calif.

Copying Machine

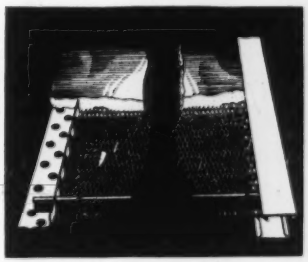
A new copying machine accommodates anything written, printed or drawn, up to surface size of 18 x 24 in.,—letters, records, tracings, layouts, maps, documents, blueprints, charts, etc. The Victory Model E has a mechanical exposure timer and a permanent yellow filter. It is also available with Tuflex glass and removable yellow filter.—General Photo Products Co., Chatham, N. J.

Wallboard Cement

A cement has been developed specifically for the installation of wall and insulation boards. It has a high bonding strength, is completely waterproof, and simple to use.—Miracle Adhesives Corp., 214 East 53rd St., New York 22, N. Y.

Transmission Oil Filter

Consisting of a stamped housing with a replaceable filter element, this new filter can be attached to all transmissions equipped with standard SAE 6-bolt short length power take-off openings. Gear oil is kept clean between changes, resulting in longer life of bearings, bushings and transmissions.—Fuller Mfg. Co., Kalamazoo, Mich.

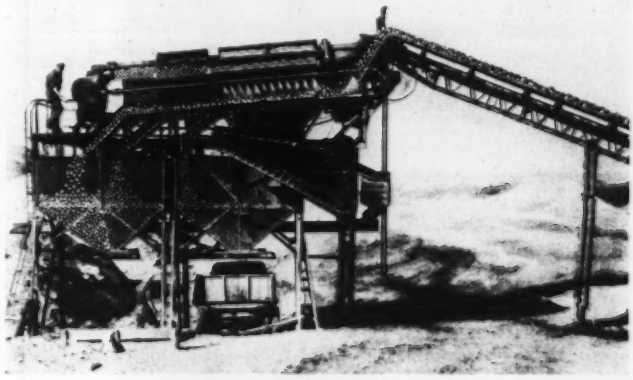


Solid Partition System

Space saving, fire resistant 2-in. solid partitions are erected quickly and economically with a new solid partition system. The partition members are so designed that they can be used in several different combinations to meet varying building requirements. The Z-type ceiling runner can be used with the Z-type floor runner or with metal base clips and metal base. Where partitions are to be erected along beams, an L-type beam runner, which can be attached to the side of the beam, is substituted for the ceiling runner, and 3-in. cold rolled steel channels are used as studs. They fit into rectangular slots in the runners and are held there without need of further support. The metal base clips used with this system hold the channel studs and also help to support and secure the metal base in place.—Inland Steel Products Co., P. O. Box 393, Milwaukee 1, Wis.

Single Control Valve

A single control valve for the simplified operation of all types of zeolite softeners, ion exchange systems and pressure filters promises to reduce time required by the plant operator, and minimize the possibility of faulty operation through error in manipulation. This is the Cochrane Hydromatic Single Control Valve, recently announced by the Cochrane Corporation of Philadelphia as standard equipment on its line of zeolite softeners and pressure filters. Control of backwash, rinse, service, chemical feed, etc., is greatly simplified. All necessary operations are accommodated by means of a single-valve. In addition to integrating the functions normally performed by a valve nest the hydromatic valve also incorporates such features as built-in backwash and rinse rate controllers, which further reduce space requirements and attention required by operating personnel.—Cochrane Corp., 17th St. & Allegheny Ave., Philadelphia 32, Pa.



Aggregate Washing Plant

Redesigned plant makes three sizes of rock and two of sand, produces 50-75 cu. yd. per hour and uses only 300-500 gal. of water per minute. Requires 35 hp. to operate and is equipped with mechanical feeder. Screens are readily changed. — Pioneer Engineering Works, Minneapolis 13, Minn.

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded—First Section

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager — *J. A. MAHONEY, Reports* — *M. R. ROESSLER, Statistics*

WATER SUPPLY

BIDS ASKED

June 7

Pa., Springboro—Springboro Boro, waterline extens. Cussewago St. Plans deposit $20. Hill & Hill, North East, engrs.

June 8

Ky., Cave City—City, City Hall, WW sys. imprvs., incl. Contr. 1, distr. sys., Contr. 2, 60,000 gal. elevated tank and tower, Contr. 3, well. J. Stephen Watkins, 145 E. High St., Lexington, consult. engr.

June 9

†Idaho—Bureau of Reclamation, Dpt. Interior, Boise, relocating water line, Cascade, Payette Div., Boise Proj., 3 mi. south and west of Cascade. Spec. R1-44.

Tex., Waco — City, H. Davis, water supt., 17,500 lin. ft. 12- to 24-in. c.i. feeder watermains. $45,000. Plans deposit $15. Joe J. Rady, 811 American Fidelity Bldg., Fort Worth, engr. CD 7/23—ENR 8/5.

June 10

†Texas—U. S. Eng., 606 Santa Fe Bldg., Galveston, water well sys., Belton Dam and Reservoir, approx. 3 mi. north of Belton and 8 mi. northwest of Temple, Bell Co., Inv. No. Eng-41-243-49-306.

June 13

Pa., Ambler—Ambler Boro, watermains. Approx. $28,000.

June 20

N. Y., Woodstock—Town Bd., Town Hall, WW sys. for Woodstock Water Dist., incl. Sect. 1, wells, pump. equip., pump. station bldg. and controls; Sect. II, watermain, valves, hydrants, appurtenances; Sect. III, standpipe. Plans deposit $25. Kels & Holroyd, 257 Broadway, Troy, consult. engrs. CD 11/23—ENR 12/2, under LB.

Bids Asked

Tex., Pasadena—Charles R. Olds & Assoc., 6500 Harrisburg St., Houston, waterlines, facilities, on 395 acre tract, near here. $40,000.

LOW BIDDERS

Calif., Modesto—City, City Hall, May 11, 600,000 cal. elevated steel water tank, supporting tower and concrete fdns., from Pittsburgh-Des Moines Steel Co., Santa Clara and Alviso Rd., Santa Clara. **$91,890.** CD 4/20—ENR 4/28.

†Pa., Phila.—U. S. Dpt. of Army, Frankford Arsenal, Phila., May 3, underground waterlines and fire plugs, Frankford Arsenal, from Edward R. Roberts Co., 2622 W. Columbia Ave., **$18,500.** CD 4/27—ENR 5/5.

Tex., Brenham—City, rejected bids May 18, water treatment plant, L. B. **$185,000.** Freese, Nichols & Turner, 2111 Natl. Standard Bldg., Houston, engrs.

Tex., Dallas—Dallas Co. Park Cities Water Control & Imprvt. Dist. 2, E. B. Germany, 25½ Highland Park Shopping Village, May 16, water imprvs., earth fill dam, 60 in. pipe, conduit, well, from City Constr. Co., 2411 Inwood Rd., **$162,358.** Est. $100,000. CD 5/3—ENR 5/5.

Ont., Belleville—P. Utilities Comm., 277 Front St., May 13, water purification plant, from St. Laurence Co. Ltd., 21 Wallbridge Rd., Approx. **$88,525.** CD 4/28—ENR 5/5.

CONTRACTS AWARDED

●Calif., San Diego—City, Civic Center Bldg., 68 m.g.d Alvarado Filtration Plant, to M. H. Golden Constr. Co., 3485 Noell St., **$2,232,721.** Est. $2,000,000. Bids 5/10. CD 5/12—ENR 5/19, under LB.

†Idaho, Arco—U. S. Navy P. Wks. Office, Naval Ordinance Plant, Pocatello, drilling 16 in. diam. fresh water test well, at Idaho Testing Station site, to A. J. Schoonover & Son, Burley.

Mich., Adrian—City, City Hall, 16 in. force main, to Haines & Haines, Elkhart, Ind., **$19,000.** Bids 4/27. CD 3/24—ENR 3/31.

Wis., Madison—City, City Hall, laying watermains, to Central Contr. Co., 1220 Algoma St., Oshkosh, **$22,911.** T. F. Harrington, city engr. CD 2/12/45—ENR 2/22/45.

SEWERS, WASTE DISPOSAL

BIDS ASKED

June 9

Conn., Plainville—Town, R. W. Hyatt, first selectmen, 29 Pierce St., Contr. 2, sewage treatment plant; Contr. 4, fence. Plans deposit $15. Rowe, Albertson & Assoc., 110 William St., New York, N. Y., engrs. CD 2/7/46—ENR 2/21/47.

N. D., Napoleon—City, City Hall, sewerage sys. $65,000. Dakota Eng. & Constr. Co., Valley City, engr. CD 3/22/46—ENR 4/4/46.

June 13

O., Warren — City, garbage incinerator. $220,000. CD 3/18/44—ENR 4/6/44.

June 14

R. I., Warren—Town, Felix Prochu, chn. Sewer Comm., Town Hall, sewage disposal treatment plant, incl. grit chambers, chlorination, 12x22 ft. sludge pump house, 35x52 ft. sedimentation tank, 50 ft. diam. digestion tank, 20x33 ft. control house, 40x112 ft. sludge beds, glassover. $250,000. Metcalf & Eddy, 1300 Statler Bldg., Boston, Mass., engrs. CD 3/14—ENR 3/17, under LB.

About June 15

†Ia., Council Bluffs—U. S. Eng., 1709 Jackson St., Omaha, Neb., 29 Ave. and Pacific Fruit Express Pumping Stations and 29 Ave. sewer alterations, Serial No. Eng. 25-066-49-218.

June 15

Ark., Marion—City, sewerage sys. $90,000. Plans deposit $10. C. H. Bond, Marion, engr.

Calif., Los Angeles—City Bd. P. Wks., 153 City Hall, 14,000 ft. 6 and 8 in. clay sanitary sewers in Owensworth Ave. and Hart St. Sewer Dist. Approx. $50,000. Lloyd Aldrich, city engr.

June 15

Pa., Susquehanna Twp.—Susquehanna Twp. Auth., c/o H. A. LeVan, 25 N. Front St., Harrisburg, sewerage sys. and pump. station, $850,000. Extended date. Howard A. LeVan, 25 N. Front, engr. CD 5/5—ENR 6/19.

Bids Asked

Tex., Pasadena—Charles R. Olds & Assoc., 6500 Harrisburg St., Houston, addnl. sanitary sewer lines, on 395 acre tract, near here. $65,000.

LOW BIDDERS

Colo., Littleton—City, May 16, sewage treatment plant, from John Boland, 1612 Filbert Court, Denver. **$163,486.** Est. $165,000. CD 5/11.

Calif., San Rafael—San Rafael Sanitation Dist., City Hall, May 17, intercepting sewers and force mains, from Stolte, Inc., 3451 San Leandro St., **$246,207;** sewage pump. and treatment works, from Haas & Rothschild, 247 Brannan St., San Francisco, **$355,269.**

Minn., Long Prairie—Village H. W. Towson, clk., Long Prairie, cancelled bids to have been opened May 13, 11,500 lin. ft. 12- to 36-in. rein.-con. storm sewers, 2,500 lin. ft. pipe for connections, with catch basins. **$70,000.** Will readvertise. CD 5/4.

†N. C., Cherokee—Bureau Indian Affairs, Dir. Construction, Dpt. Interior, Interior Bldg., 19 and C Sts. N. W., Wash. 25, D. C., May 3, sewerage sys. imprvs., from C. Y. Thomason Co., Greenwood, S. C., Proposals (1), **$100,850;** (2), **$65,250.**

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $28,000; other public works $50,000; Industrial buildings $68,000; other buildings $250,000.

Classes of Construction

(Name in order of Listing)

Water Supply	Latin America
Sewers, Waste Disposal	Public Buildings
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork, Waterways	

Unclassified

Stages Reported

PROPOSED WORK: Including appointment of engineers or architects.

BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.;

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

†	Federal Government
●	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

Ore., Central Point—City, City Hall, May 16, sewage disposal plant, from Werner & Jeske, Eugene, **$92,086.** CD 4/21—ENR 5/5.

Ore., Salem—State Bd. Control, Salem, May 19, sanitary sewer serving penitentiary annex State Tuberculosis hospital and cottage farm, from Empire Constr. Co., 4504 S. E. 39 St., Portland, **$49,848.** CD 5/11.

S. C., Greer—City, May 17, sanitary sewer imprvs., Div. 1, piping, from Reed & Abee, plant, from Peden Constr. Co., Greenville, Asheville, N. C., **$127,086.** Div. 2, treatment plant, from Peden Constr. Co., Greenville, **$277,581.** CD 4/20—ENR 5/5.

Wis., Milwaukee—City, City Hall, 200 E. Wells St., May 17, sanitary and storm sewer in N. Sherman Blvd., from L. & L. Service Co., 906 E. Center St., Zone 12, **$53,181.** J. P. Schwada, city engr.

CONTRACTS AWARDED

Ind., Jasper—Bd. P. Wks., Jasper, sewage treatment plant, to P. Schumaker & Sons, 32 W. 4 St., Mishawaka, **$298,739.** Bids 4/26, awarded 5/18; CD 4/12—ENR 4/14; sewers, to Charles F. McCurdy, 160 E. Mitchell St., Cincinnati, O., **$44,126.** Bids 3/12, awards 5/18, CD 3/7.

N. C., Hickory—City, H. L. Burdett, city mgr., sewer line extens. to Elliott Bldg. Co. & Setzer Constr. Co., Hickory, **$81,968.** Bids 5/17. CD 5/3—ENR 5/5.

Okla., Tulsa—City, City Hall, sanitary sewer main Proj. 1-48, to H. J. Haprel, 5501 E. Admiral St., **$59,892.** Est. $60,435. Bids 5/19, awarded 6/9. CD 5/11.

Ont., Islington—Etobicoke Twp., Islington, sanitary sewers, to Spartan Constr. Co. Ltd., 627 Adelaide St., Toronto, **$52,718.** Bids 5/16. CD 5/9.

BRIDGES

BIDS ASKED

June 13

Tex., Stinnett—Huchinson Co., Courthouse, bridge repairing, reconditioning, addn. $50,000. W. E. Neill, Borger, engr.

June 14

†Texas—U. S. Eng., 606 Santa Fe Bldg., Galveston, substructures for Towash and Steeles Creeks and Brazos River Bridges, M-K-T Ry location. Inv. No. Eng-41-243-49-303. Approx. $400,000.

LOW BIDDERS

Florida—State Hy. Dpt., Dixie-Sherman Hotel, Panama City, 4 concrete slab bridges, graded approaches, small drainage structures 0.705 mi. State Rd. 675, between State Rd. 4, south of Parr-ish and State Rd. 64, 73-31 (1), Job No. 1311-201, Manatee Co., from Coggin & Deermont, Chipley, **$129,507.** CD 4/25—ENR 4/28.

Louisiana—State Hy. Dpt., Baton Rouge, May 18, seven 40 ft. and one 60 ft. I-beam span, Bayou Dulac Bridge and grav. base course, State Rt. S. P. 33-01-08 Avoyelles Parish, from Forcum-James Co., Box 911, Baton Rouge, **$81,656.** CD 4/13—ENR 4/21.

New Hampshire—State Hy. Dpt., Concord, railroad overpass and approaches, Lebanon, from Miller Constr. Co., Ascatney Blvd., Windsor, Vt., **$43,181.**

Ont., Kingston—Dpt. P. Wks., Hunter Bldg., Ottawa, reconstructing north side of east sect. La Salle Causeway, from Canadian Dredge & Dock Co., Ltd., Harbour Commissioners Bldg., Toronto. Approx. **$107,489.** R. Blais, c/o owner, engr.

CONTRACTS AWARDED

Ia., Waterloo—City, City Hall, Fletcher Ave. Bridge, and surf., to A. Olson Constr. Co., Waterloo, **$84,511.** Bids 5/9.

●Pennsylvania—State Hy. Dpt., Harrisburg, superstructure for continuous truss bridge and I-beam bridge approach spans, 1,993 ft. L. R. 330 (9B), T. R. 341, Allegheny Co., to Fort Pitt Bridge Works, Keystone Hotel, Pittsburgh, **$1,923,713.** Bids 5/6. CD 5/12—ENR 6/19, under LB.

Pa., Phoenixville—The Reading Co., E. L. Gosnell, ch. engr., Reading Terminal, Phila., Zone 1, bridge reconstruction, to Empire Constr. Co., 31 S. Calvert St., Baltimore, Md. Approx. **$50,000.**

†Alaska—Pub. Roads Admin., Juneau, resurf., constructing culvert 5.9 mi. Wrangell Hy. Proj. 16-A3, B2, C3, D2, to R. J. Sommers Constr. Co., Juneau, **$74,237.** Bids 5/16. CD 5/4, under bridges.

Nova Scotia—Dpt. Transport, Hunter Bldg., Ottawa, Ont., test borings, Strait of Canso Bridge, connecting Balache Point on Cape Breton Island with Cape Porcupine on Mainland, to Foundation Maritime Ltd., 125 Lower Water St., Halifax. Approx. **$100,000.** CD 4/25—ENR 5/26.

STREETS AND ROADS

BIDS ASKED

June 13

*** N. Y., Long Island City**—Dpt. P. Wks., Municipal Bldg., New York, Zone 7, recon-

(Continued on page 52)

SPEED UP YOUR JOBS...
MEET YOUR SCHEDULES...
CUT DOWN YOUR COSTS...
with

Firestone
OFF-THE-HIGHWAY TIRES

PROFIT is the difference between making time and marking time . . . between going through and going down. You can throttle your downtime, accelerate your production time, and increase your profits with Firestone Tires.

If you need a tire with plenty of reserve pulling power for even the softest going, the Firestone Ground Grip will fill the bill—and it will give you the extra tread life and the extra body life that make your tire dollars go further.

And where you need maximum traction for rock work, strip mining, and other severe operations, get the tire with the toughest, most aggressive tread ever built—Firestone Rock Grip. It will be on the job after other tires are on the scrap pile.

The Firestone Earth Mover is the tire for free-rolling wheels that must move heaping loads over sand and soft earth. It provides maximum flotation and maximum life at minimum cost.

Listen to the Voice of Firestone every Monday evening over NBC and Americana over NBC Network Television Stations

Copyright, 1949, The Firestone Tire & Rubber Co.

EARTH MOVER GROUND GRIP ROCK GRIP

When you buy Replacement Tires or when you buy New Equipment specify —

Firestone

OFF-THE-HIGHWAY TIRES

(Continued from page 50)

structing roadway of Midtown Hy. crossing at Dutch Kills, Queens Boro. Plans deposit $10. CD 8/31/45—ENR 9/20/45.

June 14

†Neb., Grand Island — Bureau Reclamation, Dpt. Interior, Grand Island, repair access roads, Bureau Reclamation Headquarters. Lower Platte River Basein, Missouri River Basin Proj., Spec. R7-63.

About June 24

†New Mexico — U. S. Eng., P. O. Box 1538, Albuquerque, surf. roads, Conchas Dam Reservoir Proj., Conchas Dam, Serial No. Eng-29-005-49-104.

Bids Asked

Tex., Pasadena—Charles R. Olds & Assoc., 6500 Harrisburg St., addn'l. c. conc. paving on 395 acre tract near here, $100,000.

LOW BIDDERS

Calif., Hayward — City, City Hall, May 16, imprv. B St. between 1 St. and north city limits and between 4 and 5 Sts., from Lee J. Immel, 3030 San Pablo Ave., San Pablo, **$58,359.**

Colorado—State Hy. Dpt., Denver, May 17, seal coating 58.85 mi. roadbed on State Hy. 8 between Bailey and Antero Junction, Colo. Proj. SP 54-8-506, Park Co., from Colorado Constructors, Inc., 725 W. 39 Ave., Denver, **$68,384.** Est. $87,740. CD 5/9.

Florida — State Hy. Dpt., Dixie Sherman Hotel, Panama City, c. conc. pavement, sections of lime rock base with bit. surf. treated pavement at University of Florida, Gainesville, S. P. Job 2618-106, Alachua Co., from Jas. H. Craggs Constr. Co., Ocala, **$57,463***** b. conc. (Type 1) Rd. 5 between 39 St. in Miami and point approx. 5.489 mi. north, S. P. Job 8703-106 and b. conc. Type 1, Rd. 8.28 between Isle of Normandy and point approx. 0.687 mi. west, Job 8708-105, Dade Co., from Macaspahalt Corp., Lakeland, **$138,-745***** in. rolled bank surf. tr. pavement, 22 ft. wide, constr. 31 ft. con. slab bridge wid'n. 368 ft. pavement from 17 to 28 ft. clear roadway small drainage structures 4.391 mi. State Rd 60 between point approx. 11.3 mi. proj. No. S-131 (2), Job 1613202, Polk Co., from John A. Burton 301 26 St., St. Petersburg, **$177,223.** CD 4/25—ENR 4/28.

Kentucky — State Hy. Dpt., Frankfort, rejected bids May 13, bit. surf. Class I, 15.593 mi. SP Group 37 (1949), Scott Co., L. R. **$152,961.** CD readvertise. CD 4/19—ENR 4/26, under LB.

Louisiana — State Hy. Dpt., Baton Rouge, May 18, c. conc. 6.345 mi. Belle Chasse-Live Oak Hy., State Rt. 31, S. P. 62-02-17, Plaquemines Parish, from W. R. Aldrich & Co., Box 1751, Baton Rouge, **$119,043.** CD 5/4—ENR 5/12.

Michigan — Huron-Clinton Metropolitan Auth., 1100 Cadillac Sq., Bldg., May 17, 23,844 sq. yd. rein.-con. pavement, 13,394 lin. ft. curb and gutter, from I. M. Cooper, 11433 Rockind St., Redford, **$167,987.** CD 4/25—ENR 5/5.

North Dakota — State Hy Dpt., Bismarck, May 20, b. conc. surf., etc. 12.629 mi. State Hy. 5, from Bunsell N. east and south fence, Velva west, FAP F-194 (5), F-238 (5) and FLH-11 (1), Rolette Co., from Butler Constr. Co., Grand Forks, **$239,796***b. conc. 8.364 mi. State Hy. 5 from Cavalier to Hamilton, FAP F-366 (6) Pembina Co., from Megarry Bros., St. Cloud, Minn., **$233,952***traffic service gray L. S. Hy. 12 from Marmarth to Rhame, FAP F-379 (11) Bowman and Slope Counties, from W. H. Noel Co., Jamestown, **$251,723.** CD 5/6—ENR 5/12.

†Oregon — Pub. Roads Admin., Broadway and Oak Bldg., Portland, May 19, imprv. 5.5 mi. highway on North Umpqua Route, Douglas Co., from Miller & Strong, Route 5, Danebo, Eugene, **$293,155;** 8.9 mi. U. S. 395, Harney Co., from Sackett & Graham, 8029 St., Hood River, **$293,618.** CD 5/13.

Pa., Sharpsville — City, pave and resurf. streets, from Johnson-McIntyre, Sharon, **$51,062.**

Rhode Island — State Hy. Dpt., State House, Providence, May 18, road construction, Contr. #306, Providence and Warwick, from Campanella & Cardi Constr. Co., 780 Jefferson Blvd., Warwick, **$393,716;** road construction, Contr. #303, Providence and Warwick, from M. A. Gammino Constr. Co., 728 Nadley St., Providence, **$145,046.** CD 5/4—ENR 5/12.

Tex., Seymour—City, C. M. Randell, mayor, May 10, street paving, from J. R. Fannin, 1712 13 St., Lubbock, **$119,250.** Est. $100,000. CD 4/22—ENR 4/28.

Vermont — State Hy. Dpt., Montpelier, May 20, grading, drainage, sub-base guard rail and double tank coat of refined tar, Jamaica and Winhall, from George E. Duteau, 1125 Page Blvd., Springfield, Mass., **$310,626.**

Virginia—State Hy. Dpt., Richmond, May 17, stabil. base, surf. tr. 3.95 mi. Secondary Route **606**, between Route 28 and Route 7, Fairfax Co., from Richard E. Kline, Frederick, Md., **$81,885.** CD 4/28—ENR 5/5.

Wash., Kirkland—City, City Hall, May 16, **30,000** sq.yd. 4 in. concrete walk, **74,000** lin. ft. concrete curbs and gutters, grading, surf., draining Waverly Way, under L. I. D. No. 94, from Associated Sand & Gravel Co., Everett, **$278,270.** Est. $260,000. CD 5/4.

†Alaska — Pub. Roads Admin., Juneau, rejected bids May 16, grading, surf. constructing 230 ft. rein.-con. bridge 1,579 mi. Tongass Hy. in Tongass National Forest, Proj. 1- B7, G3, L. B. **$668,000.** CD 5/4, under Bridges.

CONTRACTS AWARDED

●Arkansas — State Hy. Dpt., Little Rock, to Ben M. Hogan & Co., 1120 Fairview St., Little Rock, blacktop 18.522 mi. White Co. line U. S. Hy. 64, Conway, Faulkner Co., **$199,670;** blacktop 5.923 mi. Nashville-Ozan Rd., State Hy. 4, Nashville, Howard Co., **$130,-657;** grading 6.266 mi. Morning Sun Judsonia Rd., U. S. Hy. 67, Judsonia, White Co., **$129,-834***to Linwood Smith, Lake Village, blacktop 10.824 mi. Altheimer-Cornerstone Rd., State Hy. 88, Altheimer, Jefferson Co., **$186,-983***to Reynolds & Williams, Tyler, Tex., blacktop 9.138 mi. Booneville-North Rd., State Hy. 23, Booneville, Logan Co., **$160,146***to Grady Sarms, 29 and Elm Sts., Little Rock, c. conc. 9.94 mi. Wabash-Northeast Rd., State Hy. 44, Helena, Phillips Co., **$114,620***to McGeorge Constr. Co., foot of Nebraska St., the Bluff, grading 14.444 mi. Hy. 75, Blackfish Lake Rd., Black Fish Lake, St. Francisco Co., **$301,585***to McClinton Constr. Co., Fayetteville, blacktop 3.319 mi. Goshen-West Rd. State Hy. 45, Goshen, Washington Co., **$63,476***to D. F. Jones Constr. Co., Box 1365, Little Rock, blacktop 8.859 mi. Plainview-Nimrod Rd., State Hy. 60, Plainview, Yell and Perry Counties, **$137,880.** Grand total $1,424,861. Bids 5/20. CD 5/11.

Minn., Crookston — Polk Co., H. J. Welte, aud., Crookston, grav. 6.6 mi. S. P. 60-525-01, (SAR 6) Minn., Proj. E. R. S. 7B, to R. Benson & Sons, Stephen, **$55,289.** Bids 5/10. CD 5/4.

Oregon — State Hy. Comm., Salem, reoiling 25.08 mi. Nashville—Blodgett and Brownsville—Sweet Home sects., Eddyville—Blodgett and Halsey—Sweet Home Secondary Hys., Benton, Lincoln and Linn Counties, to Warren Northwest Co., Box 5072, Portland, **$57,736***surf. 1.15 mi. and oiling 34.15 mi. Service Creek-Coos Rock sec. of John Day Hy., Grant and Wheeler Counties, to Newport Const., 2631 N.E. Halsey St., Portland, **$55,625***oiling, crushed rock in stockpiles 9.7 mi. Maupin-Criterion sect. The Dalles-California Hy., Wasco Co. and reoiling, crushed rock in stockpiles 13.11 mi. Pine Grove-Maupin sect., Wapanitia Hy., Wasco Co., to C. C. Yocum Co., McMinnville, **$61,592** and **$74,366** respectively. Grand total $249,319. Bids 5/16.

Wash., Seattle — City, County — City Bldg., paving 34 Ave. E. to Fiorito Bros., 1100 Leary Way, **$54,247.** Est $59,653. Bids 5/18. CD 5/11.

Wis., Madison — City, bit. surf. Lansing and Huxley Sts., to Ilke & Pankow, Madison, **$163,519.** Bids 4/29. T. F. Harrington, city engr.

Wis., Milwaukee—City, City Hall, 200 E. Wells St., paving streets and alleys, W. Wisconsin Ave., to White Constr. Co., 2543 W. Greves St., Zone 4, **$168,535.** Bids 5/13. J. P. Schwada, city engr.

Ont., Toronto — Municipality, b. conc. Haskin Ave., to George W. Porter Constr. Co. Ltd., 7 Lawrence Ave., **$54,843.** M. Stewart, city engr.

EARTHWORK, WATERWAYS

BIDS ASKED

June 6

Conn., New Haven—State, G. Albert Hill, state Hy. contr. 610 ft. retaining bulkhead brewery St. Channel Harbor front relocation of U. S. Route 1.

June 7

†Mass., Cuttyhunk—U. S. Eng., Army Base, Boston, Zone 10, hydraulic dredging 30,000 cu. yd. Cuttyhunk Harbor.

†Illinois—U. S. Eng., 826 U. S. Court House and Custom House, 1114 Market St., St. Louis 1, Mo., clearing and snagging McKee Creek, Pike Co., Serial No. Eng. 23-065-49-128. CD 4/26—ENR 4/28.

June 8

La., Alexandria — Rapides Parish Police Jury, Alexandria, approx. 1,055,000 cu. yd. channel excav.

La., Lake Providence—East Carroll Parish Police Jury, Lake Providence, drainage proj. involving, approx. 192,400 cu. yd. channel excav., 253 mi. channel restoration.

La., Tallulah—Fifth Louisiana Levee Dist., Tallulah, imprv. Lake St. Peter Drainage Canal, incl. 48,000 cu. yd. channel excav., and 6.68 mi. channel restoration, Tensas Parish.

June 9

†Arkansas—U. S. Eng., P. O. Box 97, Memphis, 1, Tenn., placing approx. 125,000 cu. yd. earth L-218-WR, Riprap in White River Levee District of Woodruff and Monroe and Prairie Counties, Serial No. Eng-401-041-49-138.

†Conn., New Haven—U. S. Army Base, Boston, 10, Mass., hydraulic dredging 320,000 cu. yd. New Haven Harbor. CD 6/8/44—ENR 6/29/44, under Connecticut.

†Illinois—U. S. Eng., 826 U. S. Court House and Custom House, St. Louis, 1, Mo., levees, East St. Louis, Proj. Item II-A (2), St. Clair Co., Serial No. Eng. 23-065-49-124. CD 4/28—ENR 5/26.

†Nebraska—U. S. Eng., 1709 Jackson St., Omaha, construct Agricultural Levees Unit R-548, Sects. 1 and 2 near Brownsville, Serial No. Eng-25-068-49-252. CD 5/11—ENR 5/19.

†New York—U. S. Eng., 925 New Federal Bldg., Pittsburgh 19, Pa., Olean Flood Protection Proj. Unit 2, Contr. Sect. A, Allegheny River, Olean Serial No. Eng.-36-058-49-128.

Tex., Texarkana—U. S. Eng., foot of Prytania St., New Orleans 9, La., construct terrace sect. of Texarkana Dam, approx. 10 mi. southwest of city of Texarkana, U. S. Hy. 59, Serial No. Eng-16-047-49-281.

About June 10

†New York—U. S. Eng., Engineer Park, Buffalo, Zone 7, Onondaga Creek Channel Imprvt. Onondaga Co. Plans deposit $10.

On or About June 13

†Ohio—U. S. Eng., Madison Ave. and 8 St. W., Huntington 18, W. Va., gaging station, Delaware Reservoir Proj., Olentangy River, Delaware Co.

June 14

†Louisiana—U. S. Eng., foot of Prytania St., New Orleans, Zone 9, Lecompte Control Structure, south bank of Bayou Boeuf, Rapides Parish, 1 mi. west of Lecompte, Serial No. Eng. 16-047-59-295.

†Mass., Fall River—U. S. Eng., Army Base, Boston, Zone 10, hydraulic dredging, 1,285,000 cu. yd. Fall River Harbor. CD 6/21/46—ENR 7/11/46.

†Mississippi—U. S. Eng., P. O. Box 60, Vicksburg, drilling water wells, Sardis and Arkabutla Reservoirs, on Govt. Reservation at Rockville Landing, Cypress Point and Clear Creek Landing on Sardis Reservoir, Panola and Lafayette Counties, and at Kelly Crossing and North Abutment on Arkabutla Reservoir, Tate and DeSoto Counties, Serial No. Eng. 22-052-49-217.

June 15

N. Y., New York—Comr. Marine & Aviation, Pier 7, North River, foot of Battery Pl., Zone 4, bulkhead wall exten. from designated point S west of Pier (old) 4, to west side of Pier 9, demolition and construction at existing Piers 4, 5, 6, 7 and 8, East River, Contr. No. 2530. Plans deposit $10.

†Oregon—U. S. Eng., 628 Pittock Block, Portland, Zone 5, 70,000 hp hydraulic turbines and governors, Serial No. Eng-35-026-49-491. CD 2/16—ENR 2/24.

†Oregon—U. S. Eng., Pittock Block, Portland, Zone 5, clearing damsite and borrow areas and constructing portion earthfill dam embankment, excavating for future concrete spillway and construct river diversion channel at Lookout Point damsite, 23 mi. southeast of Eugene, on Middle Fork of Willamette River, Lane Co., Eng-35-026-49-512.

June 16

†California—U. S. Eng., Wright Bldg., Sacramento, levee embankments, road and railroad, Harbor Area, Sacramento Deep Water Ship Channel Proj., Sacramento Co., Spec. 1394. Plans deposit $25.

LOW BIDDERS

†Indiana—U. S. Eng., 830 W. Broadway, Louisville, May 17, Outlet works, Operating Tower, Cagles Mill Reservoir, Mill Creek, from Midland Constructors, Inc., 222 W. Adams St., Chicago, Ill., **$293,245.** CD 4/8—ENR 5/5.

†Mississippi—U. S. Eng., P. O. Box 97, Memphis, Tenn., May 17, repairing, imprv. 32 mi. levee, De Soto and Tunica Counties, incl placing approx. 170,000 cu. yd. material, from Forcum-James Co., Inc., Ayersburg, Tenn., **$103,000.** CD 4/29—ENR 5/5.

†North Dakota—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul 1, Minn., May 17, spillway and embankment closure, Stage 2, Homme Dam, Park River, Serial No. Eng-21-018-49-85, from Barnes-Mattison, Inc., 1230 Metropolitan Life Bldg., Minneapolis, Minn., **$406,586.** CD 4/21—ENR 4/28.

†North Dakota—U. S. Eng., Fort Lincoln, Box 300, Bismarck, May 17, West abutment grout curtain, Garrison Dam Proj. near Riverdale, Serial No. Eng-32-041-49-82, from Mott Corre Drilling Co., Huntington, W. Va., **$63,700.** CD 4/20—ENR 5/5.

†Wyoming-Nebraska — Bureau Reclamation, Dpt. Interior, 504 Conntry Bldg., Casper, Wyo., Apr. 7, grouting Fort Laramie Canal, North Platte Proj. approx. 7 mi. southwest of Torrington, Spec. 2600 from Jones Core Drilling Co., P. O. Box 5332, Dallas, Tex., **$29,105.** CD 2/8—ENR 3/10.

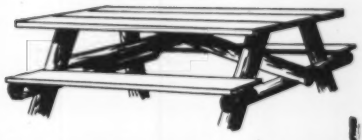
CONTRACTS AWARDED

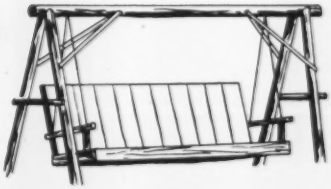
kan., Great Bend—Kansas Forestry, Fish & Game Comm., Topeka, Cheyenne Bottoms Inlet Canal, near Great Bend, divides, to Milton Reinhardt, Russell, **$92,420;** bridges, to T. E. Marbut, Columbian Bldg., Emporia, **$46,285.** Bids 5/6. CD 4/20—ENR 4/28.

O., Youngstown—City, Al Davies, city park supt., removing approx. 50,000 cu. yd. silt from Lake Coahasset, to Erskine & Sons, Inc., Canfield and Poland Rd., **$49,625.** Bids 5/16, awarded 5/20. CD 5/18—ENR 5/26.

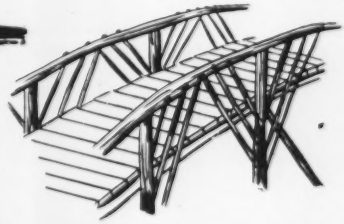
Tex., Dilley—T. E. Burns, 123 W. Kings Hy., San Antonio, 1,017 acre irrigation proj., water to come from Martine Creek, 6 mi. southeast of here. Approx. **$40,000;** irrigation proj. 360 acre tract west of here, **$30,000,** day labor.

(Continued on page 57)





Avoid unnecessary maintenance and too early replacement



specify penta-treated wood

chlorophenol

Picnic tables, swings, and wood bridges, exposed to all kinds of weather are particularly susceptible to decay and termite attack. Build with "PENTA"-protected wood and add years to the life of these structures.

"PENTA"-Protected wood offers many advantages:

1. It *stays* protected—the chemical PENTAchlorophenol lasts through the years.
2. It's clean! . . . doesn't bleed and can be painted when properly treated.
3. "PENTA" solutions that include a water repellent are obtainable. Wood treated with these solutions has, in addition to toxic qualities, increased resistance to checking, plus greater dimensional stability.

For "PENTA"-PROTECTED WOOD —see your lumber dealer! Write Dow for more information about "PENTA" and its applications. Address Dept. PE 53.

DOW penta- chlorophenol

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

Protect your profits with K

HAVE you ever noticed how many old-time Koehrings are still operating profitably, day after day in your territory? There's an important "plus" value for you in this long-life characteristic of the Koehring excavator line. You get more than an excavator when you buy a Koehring . . . . you get insurance that your machine can keep working and earning on heavy, 3-shift schedules during peak periods, war crises, and other emergencies that can occur during the life-time of your excavator.

Heavy-duty loader in the ½-yard class, Koehring 205 has rugged, dual-purpose boom for both shovel and pull shovel. This saves 20 to 25% over units requiring separate booms. 205 also converts to dragline, clamshell, 7¾ to 10-ton crane . . . crawler or rubber tire mount.

Koehring 605's fast, smooth swing, cool-running clutches, independent boom hoist, make each shift more productive. Big 37" power clutch requires only 1/10th normal lever pull, retains "feel". 605 handles all standard excavator attachments . . . including 30½-ton lift crane.

K905

For heavy-duty hauling . . .

Koehring 6-yd. Dumpters* keep excavator output high . . . hauling costs low. They speed shovel swings . . . maneuver in close . . . provide big 8' x 8' target for loading over end or side. No-turn shuttle haul gets them to dump and back *fast!* 1-second gravity dump eliminates body-hoist maintenance.

*Trademark Reg. U. S. Pat. Off.

KOEHRING heavy-duty...

THIS heavy-duty "plus" in Koehring excavators assures less down-time, lower maintenance costs . . . more work-time. They have a good reputation among owners and operators for steady output . . . steady income. This also has an important bearing on re-sale price any time during life-time of the excavator. You will never have an "orphan" on your hands, with Koehring behind your machine. So . . . before you invest in excavators, investigate Koehring "profit insurance". Get all the facts from your Koehring distributor.

For extra rugged digging strength, check Koehring 304's deep-section rock boom, rigid shipper shaft mounting, powerful 1-piece chain crowd. Converts to pull shovel, dragline, clamshell . . . lifts 11½ to 20 tons, depending on crawler, cruiser or truck-type mounting.

Heavy-duty Koehring 1005 introduces big yardage output and operating ease not previously available in the 2½-yard class. It's extra rugged in every detail . . . has big self-adjusting 4' power clutch, positive traction brake-steering, 2-section independent chain crowd. Converts to dragline, or 50½-ton crane.

KOEHRING COMPANY
Milwaukee 10, Wis.
SUBSIDIARIES: KWIK-MIX • PARSONS • JOHNSON

KOEHRING HEAVY DUTY

Jammed shipping platforms are costly, wasteful. Prompt action now... can save you money for years to come!

The prime reason why so many traffic managers today are finding it difficult to move goods in and out of plants quickly, *efficiently*—is because the shipping facilities weren't planned for future expansion.

Slow up goods on loading platforms, and what happens? An artificial bottleneck is created. Costs mount. The savings you're making in internal operation are being slowly drained away by idle man and truck hours. That's true of the trucks you *own* or *hire*.

Trucks need adequate platforms—room to move around in. The smart thing to do is call in your traffic manager, architect or engineer and *let them show you how they can save you money*—5, 10, 20 years from today!

THE AMERICAN TRUCKING INDUSTRY

American Trucking Associations, Washington 6, D. C.

(Continued from page 52)

N. B., Caraquet—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., harbour imprvs., to Komo & Savoie Constr. Co., Caraquet. Approx. $298,220. R. Blais, c/o owner, engr. Bids 4/6. CD 3/22—ENR 3/31.

AIRPORTS AND AIRBASES

BIDS ASKED

About June 6

†Mich., Mount Clemens — HOUSING — U. S. Eng., 520 Merchandise Mart, Chicago 54, Ill., family quarters, Selfridge Air Force Base, Serial No. Eng. 11-032-49-101. Plans deposit $25.

June 7

†Mich., Selfridge Field (br. Mt. Clemens) —HOUSING—U. S. Army, 520 Merchandise Mart, Chicago, 54, Ill., family type quarters (2 story row houses). Serial No. Eng. 11-032-49-101. CD 10/26—ENR 11/4.

June 8

†Va., Chincoteague—OFFICERS QUARTERS —Pub. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, Zone 11, eight single story frame residences, for married officers, Naval Auxiliary Air Station and Naval Aviation Ordnance Test Station, Spec. 18278. Plans deposit $10.

June 10

†S. D., Rapid City — FACILITIES—U. S. Eng., 1709 Jackson St., Omaha 2, Neb., facilities for Hit hangar, Rapid City Air Force Base, Weaver, Serial No. 25-066-49-135. CD 10/26—ENR 11/11.

About June 13

†N. C., Charlotte—AIRFIELD—U. S. Eng., Post Office Bldg., Savannah, Ga., repairing, modernizing facilities for Air National Guard, Morris Field. Plans deposit $10.

About June 14

†S. C., Congaree—AIR BASE BLDGS.—U. S. Eng., Post Office Bldg., Savannah, Ga., repairing, altering 12 bldgs., Congaree Air Base. Plans deposit $25. June 15

†Tex., Randolph Field—WATERLINES, etc. —U. S. Eng., Fort Sam Houston, c.i. waterlines, facilities, $45,000. Bid date changed. CD 5/13, under Water Supply.

†Tex., Randolph Field — SEWER.)—U. S. Eng., Fort Sam Houston, sanitary sewers, $60,000. Bid date changed. CD 5/13, under Sewers, etc.

●†Tex., Randolph Field — HOUSING — U. S. Eng., Fort Sam Houston, (Sta. San Antonio), 65 masonry, or masonry veneer family housing units, concrete slab fdn. $1,130,000. CD 5/13—ENR 5/19.

†Tex., Randolph Field—PAVING, etc.—U. S. Eng., 606 Santa Fe Bldg., Galveston, street constr. and paving, $50,000; site grading, drainage, $32,000. Inv. No. Eng-41-243-49-296.

June 20

●†R. I., Quonset Point—OVERHAUL and REPAIR BLDG.—Officer in Charge of Construction, 1st. Naval Dist., Pub. Wks. Bldg., Naval Air Station, Quonset Point, engine overhaul exten., replace burned bldg., Spec. 22366. $3,000,000. Plans deposit $80. Extended date. Charles A. Maguire, 1515 Turks Head Bldg., Providence, archt. CD 5/13—ENR 5/19.

June 22

●†Tex., Austin—HOUSING—U. S. Eng., 606 Santa Fe Bldg., Galveston, 80 masonry housing units for Bergstrom Air Force Base, personnel occupancy, $1,613,000. CD 10/26—ENR 11/11.

LOW BIDDERS

Minn., Minneapolis—AIRPORT IMPRVS.—Minneapolis-St. Paul Metropolitan Airports Comn., R. Aldrich, exec. dir., 2429 University Ave., St. Paul, May 12, Schedule III, excavation, storm sewers, manholes, catch basins, riprap, tunnel, from D. Boore, 841 Sherwood Ave., St. Paul, $735,254. CD 4/20—ENR 5/5.

S. D., Deadwood—AIRPORT—Lawrence Co., Deadwood, airport, from Daane Bros., Sturgis, $52,705. CD 4/27.

CONTRACTS AWARDED

Ga., Atlanta — AIRPORT IMPRVS. — City, Atlanta Municipal Airport addnl. imprvs., to Mac Dougald Constr. Co., Northside Dr. $944,228.

†Wash., Whidbey Island (Br. Seattle)—AIR STATION IMPRVS.—Pub. Wks. Office, 13th Naval Dist., 1611 W. Wheeler St., Seattle, re-sealing of concrete aircraft-operating areas and repairs to warm-up area at Naval Air Station, Ault Field, Spec. 20736, for Yards & Docks Annex, Navy Dpt., Arlington, Va., to A. W. Stevens, Burlington, $99,486. Bids 5/18. CD 5/3—ENR 5/12.

PUBLIC BUILDINGS

BIDS ASKED

June 7

Ia., Latimer — Consolidated School Dist., Latimer, school, near here, $300,000. Wetherell & Harrison, Shops Bldg., Des Moines, archts. CD 2/21—ENR 3/17.

†Kan., Fort Leavenworth—U. S. Eng., 1709 Jackson St., Omaha, 2, Neb., 2 story, 210x220 ft., rein.-con., brick printing plant, water, sewers, utilities, walks, roads, etc. Serial No. Eng. 25-066-49-230. Plans deposit $10. CD 12/1—ENR 12/23.

Minn., Cleveland—B. Educ., C. J. Griep, clk., Cleveland, school and garage alterations, addns. $250,000. Plans deposit $15. A. G. Plagens, 379 University Ave., St. Paul, archt. CD 10/31/46—ENR 11/7/46.

Minn., Minneapolis—University of Minnesota, R. S. Callaway, purch. agt., 323 Administration Bldg., Main Campus. Minneapolis, field house alterations, incl. ice rink and equip., $700,000. Plans deposit $25. C. H. Johnston, 715 Empire Bank Bldg., St. Paul, archt. CD 1/5—ENR 1/20.

N. Y., Fort Wadsworth (Sta. Staten Island) —New York City Housing Auth., 63 Park Row, New York, Zone 17, street and yard imprvs., South Beach Houses, part of Proj. No. NYC-5, in area bounded by Parkinson Ave., Kramer St., Lamport Blvd., McClean Ave., Norway Ave., Reid Ave. and P. S. 46, Richmond Boro. Plans deposit $25.

N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, top soil and planting for Eastchester Houses, Proj. No. NYC-5, in area bounded by Yates, Burke, Bouck and Adee Aves., Bronx Boro. Plans deposit $25.

†S. C., Greenville—Officer in Charge of Construction, Charleston Naval Shipyard, P. O. Box 365, Naval Base, 2 story, concrete masonry bldg. at Naval Reserve Training Center, Spec. 22281. Plans deposit $20.

June 8

Ala., Mobile—State Docks Comn., Mobile, bulk handling plant, $750,000. Bid date changed. J. B. Converse & Co., 106 St. Joseph St., Mobile, engrs., CD 5/10—ENR 5/12.

†Ga., Savannah—U. S. Eng., Post Office Bldg., altering Bldg. 3, Savannah Quartermaster Depot. Serial No. Eng-01-133-49-183. Extended date. CD 4/13—ENR 4/21.

†Ill., Rock Island—U. S. Eng., Clock Tower Bldg., Rock Island, reroofing and sheet metal work, Clock Tower Bldg., Arsenal Island, Serial No. Eng. 11-117-49-74.

Mass., Greenfield—Town of Greenfield Housing Auth., E. Bond, chn., Town Hall, 72 unit 2 story brick, frame veterans housing, $720,000. Plans deposit $25. Sargent, Webster, Crenshaw & Folley, 2112 Erie Blvd., Syracuse, N. Y., archts. CD 1/13—ENR 2/3.

Minn., Minneapolis—University of Minnesota, R. S. Callaway purch. agt., 323 Administration bldg., Main Campus, concrete chimney alteration, piping and electrical work, boiler unit, campus heating plant. $125,000. Plans deposit $20. Helmick, Edeskuty & Lutz, 405 Essex Bldg., engrs. CD 11/30/44 — ENR 12/14/44.

N. Y., Fort Wadsworth (Sta. Staten Island) —New York City Housing Auth., 63 Park Row, New York Zone 17, top soil and planting for South Beach Houses, part of Proj. No. NYC-5 in area bounded by Parkinson Ave., Kramer St., Lamport Blvd., McClean, Norway and Reid Aves., and P. S. 46, Richmond Boro. Plans deposit $25.

†N. D., Minot—U. S. Eng., Administration Bldg., Fort Peck, Mont., nurses' quarters for John Moses Veterans Memorial Hospital, Serial No. Eng-24-016-49-69. Extended date. CD 5/18.

O., Salem—Bd. Educ., Salem, school expan. Plans deposit $10. Rosseau & Boucherle, Mahoning Bank Bldg., Youngstown, archts. CD 11/11—ENR 11/25.

†W. Va., Point Pleasant—Pub. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, 11, Va., erect 10 SSAR buildings in multiple conversion at U. S. Naval Storehouse, Spec. 21784. Plans deposit $10.

N. S., Dartmouth — Canadian Commercial Corp., engrs., 70 Lyon St., Ottawa, Ont., work and test shop, Naval Ordnance depot, for Dominion Govt., Dpt. National Defense, Ottawa, Ont. $100,000. Plans deposit $25.

June 9

Ind., Terre Haute—Vigo Co. Bd. Comrs., H. Leach, pres., Court House, three 1 story, brick, rein.-con. cottages, county childrens home, $420,000. Plans deposit $25. Wayne Weber, 415 Star Bldg., archt. CD 2/5—ENR 2/19.

Kan., Ellsworth—Ellsworth Co., Ellsworth, court house, $265,000. Mann & Co., Hutchinson, and John Seitz, Ellsworth, archts. CD 10/23/46—ENR 11/14/46.

†Md., Beltsville—Dpt. Agriculture, Independence Ave., between 12 and 14 St. S.W., headhouse, greenhouse, etc., plant industry station.

†N. Y., Albany—U. S. Eng., 120 Wall St., New York, Zone 5, residence bldg. at Veterans Admin. Hospital, for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C. Extended date. CD 4/27—ENR 5/5.

†N. Y., Bayside—U. S. Eng., 120 Wall St., New York, 5, N. Y., altering Bldgs. 248 and 252 Permanent Medical Equip. Laboratories, Fort Totten. Plans deposit $10.

●Ore., Portland—School Dist. 1, 631 N.E. Clackamas St., 1 story, 185x667 ft., rein.-con. Lents Primary School, $500,000; 1 story, 185x 667 ft. rein.-con. Binasmead Primary School, $500,000. Jacobberger, Stanton & Zeller, McKay Bldg., Portland, archts. CD 3/8/48—ENR 3/18/48.

●S. C., Spartanburg — Spartanburg General Hospital, c/o Lockwood Green Engineers, archts., Spartanburg, hospital addns. $1,000,000. Extended date. CD 3/25—ENR 3/31.

Wis., Janesville—Rock Co., Janesville, 2 story, 127x167 ft., rein.-con., brick, stone fall, $360,000. Plans deposit $30. Childs & Smith, 20 N. Wacker Dr., Chicago, Ill., archts. CD 5/12.

ARMSTRONG-BRAY

WIREGRIP precision made Belt Hooks come with extra (patented) blue aligning cards—are held more rigid, assuring perfect alignment of hooks—less hook loss from handling—a better job when applied with any make lacing machine. 6 sizes

PLATEGRIP Fasteners for . . . Conveyor Belts. Make strong dust-tight joints in belts, of any width. Spread tension uniformly across belt, allow natural troughing of belt and operate smoothly over flat, crowned or take-up pulleys. Sizes for belts from ¼" to 1½" thick. Easily applied anywhere.

STEELGRIP Flexible Lacing, applied with a hammer, clinches over and protects end of belt. Makes strong, flexible joints. Boxed with 2-piece hinged rocker pins or can be obtained in long lengths for conveyor belt use.

ARMSTRONG-BRAY & CO.

"The Belt Lacing People"

5320 Northwest Hwy., Chicago, Ill.

DRY SUBGRADES QUICKLY AT LOW COST...

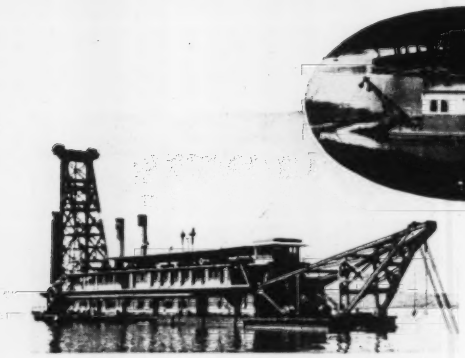
MORETRENCH WELLPOINT SYSTEM

Send for a Moretrench estimate on your next dewatering job.

MORETRENCH CORPORATION

90 WEST ST., NEW YORK 6

CHICAGO, ILL. • TAMPA, FLA. • HOUSTON, TEX.



LARGE OR SMALL

Only Ellicott offers a complete line of hydraulic dredges, from 6 to 30 inches. Shown are a small 10-inch contract machine and a giant 28-inch heavy-duty dredge.

How ELLICOTT hydraulic DREDGES operate at Lowest Cost under all conditions!

ELLICOTT is the only organization that builds and designs hydraulic dredges and dredge components exclusively . . . there is no divided responsibility. That means each Ellicott Dredge is a *balanced unit* because all components work as a team with highest efficiency. Ellicott design also means operating with a minimum of skilled labor, resulting in overhead savings.

Ellicott service starts by designing your dredge for operation under varied conditions so that it outlasts any temporary work. *Proper hydraulic design* eliminates unnecessary wear, and parts that must wear under operation are easy to reach, inexpensive to replace, thus cutting maintenance costs.

Under all conditions, Ellicott Dredges operate at the lowest cost per cubic yard and they are designed for long life. Over 75% of the Ellicott Dredges built before 1928 are in operation today! For economy, long life and usefulness, specify Ellicott. You'll find Ellicott's 63 years of experience will give you complete satisfaction. For complete information, write today for the latest Ellicott Catalog to: ELLICOTT MACHINE CORPORATION, 1603 Bush Street, Baltimore, Maryland, U. S. A.

● COMPLETE LINE from 6 to 30 inch equipment for all dredging requirements.

● 63 YEARS OF EXPERIENCE with hydraulic dredges.

● UNDIVIDED RESPONSIBILITY . . . designed, built, delivered under one Ellicott contract.

● PROVED PERFORMANCE in the U. S. A. and abroad.

ELLICOTT HYDRAULIC DREDGES

any type — any size — any service

Ont., Toronto—University of Toronto, c/o Marani & Morris, archts., 1250 Bay St., college of education addns. Plans deposit $50. CD 1/20/47—ENR 2/6/47.

June 10

Colo., Grand Junction—School Dist. 1, Mesa Co., 543 Rood Ave., 6 classroom Tope School addn. and 8 room Columbus School addn. $400,000. Atchison-Kloverstrom, 1254 Monaco Parkway, Denver, engrs. and archts. CD 3/30—ENR 4/28.

Conn., Naugatuck — Town Bd. Selectmen, Town Hall, 1 story, bsmnt., brick, steel school, Central Ave. $300,000. Henry T. Moeckel, 35 Hillcrest Ave., archt. CD 5/4—ENR 5/12.

†Mont., Whitehall — Civil Aeronautics Admin., Smith Tower Annex, Seattle, 4, Wash., enlarging communication station.

N. Y., Brooklyn—Supt. School Buildings, Design & Construction, 49 Flatbush Ave. Exten., Zone 1, general contract, plumbing and drainage, heating and ventilating, electrical and lighting fixtures for Junior High School 240, Avenue K, E. 29 St. and Nostrand Ave. Plans deposit $20 for general, $8 for others. CD 8/13/45—ENR 8/23/45.

●O., Cincinnati—Clerk Bd. Educ., 216 E. 9 St., Condon School and S. Avondale School addns. Approx. $1,000,000. Plans deposit $25; adv. ENR 5/26. CD 11/12.

S. C., Newberry—Newberry Co. Memorial Hospital, George K. Dominick, chn., Courthouse, hospital alterations, addns. Plans deposit $100. James C. Hemphill, Greenwood, archt.

On or About June 11

†D. C., Wash.—Federal Wks. Agency, Pub. Bldgs. Admin., F St. between 18 and 19 Sts. N. W., Womens Dormitories 4 and 5, and exten., remodeling adjoining bldgs. at Howard University. Appr. No. 74-0824. Proj. No. 49-104, SAAE. CD 12/10/48—ENR 12/16/48, under LB.

June 13

Ind., Michigan City—Bd. School Trustees, W. C. Smith, chn., Michigan City, 1 story, bsmnt., 60x293 ft., 60x256 ft. and 60x90 ft. U-shaped brick, stone, rein.-con., steel, school, $275,000. Boyd Phelps, Inc., 232 Franklin St., archt. CD 8/22/46—ENR 9/5/46.

Minn., Shakopee—Bd. Educ., Mrs. M. L. Regan, clk., Shakopee, 2 story, 46x120 ft. and 36x55 ft., T-shaped, rein.-con., brick, stone school addn. $300,000. Plans deposit $10. Long & Thorshov, 400 Metropolitan Life Bldg., Minneapolis, archts. CD 5/4—ENR 5/6.

Tex., McAllen—McAllen Independent School Dist., McAllen, steam heating plant. $75,000. T. E. McCollum, engr.

About June 14

†Ga., Camp Gordon—U. S. Eng., Post Office Bldg., Savannah, 4 nurses quarters alterations. Plans deposit $10.

On or About June 14

†Kan., Fort Riley — U. S. Eng., 1709 Jackson St., Omaha, Neb., three eight-family 2 story masonry houses, utilities. Serial No. Eng. 25-066-49-243. CD 8/16—ENR 9/9.

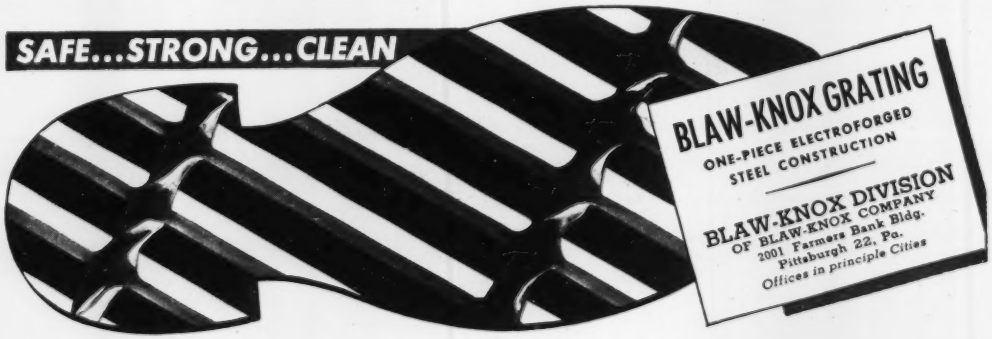
June 14

Calif., Los Angeles—Bd. Supervs. Los Angeles Co., 501 Hall of Records, Wayside Honor Farm imprvs. $400,000. Plans deposit $75. Beelman & Spackler, 7421 Beverly Blvd., archts. CD 8/17/45—ENR 9/6/45.

Calif., Los Angeles—Bd. Supervs. Los Angeles Co., 501 Hall of Records, county flood control headquarters, repair shop, warehouse, storage bldg., service station, oil storage tanks, site development. $250,000. Risley & Gould, 2502 W. 3 St., archts. CD 12/30/46—ENR 1/9/47.

Calif., Merced—State Div. Architecture, P. Wks. Bldg., Sacramento, Type A-rein.-con. armory for California National Guard. Plans deposit $25. Anson Boyd, state archt.

Calif., Ontario—Chaffey Junior College, Ontario, 2 story, 27,000 sq. ft., rein.-con. student union bldg. $358,000. Allison & Ribble, 628 S. Westmoreland St., Los Angeles, archts.



●**N. Y., Rome** — Bd. Educ., Administration Bldg., N. George St., Junior High School and Elementary School. $3,000,000. Starrett & Van Vleck & Reginald Marsh, 101 Park Ave., New York, Zone 17, archts. CD 4/6—ENR 4/14.

Okla., Bartlesville—Clerk, Washington Co., County Hospital addn. and remodeling present bldg. $275,000. Plans deposit $50. Thomas F. Holifield, 1806 Hillcrest Dr., archt. CD 5/4—ENR 5/26.

Ore., Gresham—School Dist. 4, Gresham, 13 room, steel truss school. $400,000. Plans deposit $50. Donald W. Edmundson, Henry Bldg., Portland, archt.

✦**Tex., Houston**—U. S. Eng., 606 Santa Fe Bldg., Galveston, rehabilitation Hughes Tool Plant, incl., alterations, remodeling 5 shops, installing six 200,000 BTU heaters, 18 heaters between 18,000 and 40,000 BTU capacity. Inv. No. Eng-41-243-49-317. Approx. $450,000.

✦**Washington**—Bonneville Power Admin., 729 N. E. Oregon St., Portland, 8 Ore., control house, oil house, oil tanks, oil filtering, condenser house and water piping at Port Angeles substation, Clallam Co., Inv. 4635. Plans deposit $25.

✦**Wash., Fort Lewis**—U. S. Eng., 4735 E. Marginal Way, Seattle, Zone 4, family quarters. Serial No. Eng-45-108-49-164. CD 5/13/48—ENR 9/2/48.

●**Que., Mount Royal**—Sécy., c/o Protestant School Comn., 3460 McTavish St., high school, caretakers cottage. Approx. $1,500,000. R. C. Betts, 660 St. Catherine St. W., Montreal, archt. McDougall & Freidman, 1235 McGill Collage Ave., Montreal, engrs. CD 4/6—ENR 4/28.

June 15

●**Calif., Los Angeles**—Bd. Educ., 1425 S. San Pedro St., reln.-con., Wilmington, Kirkwa Junior High School bldgs. $1,500,000. Hutchason & Lawson, 816 W. 5 St., engrs. CD 2/21—ENR 3/17.

●**Tex., Lubbock**—Lubbock Co., Courthouse, 1 story, steel courthouse, air-conditioning, etc. $1,500,000. Plans deposit $25. Haynes & Kirby, 19 St. and Kirby Dr., archts. CD 11/10/47—ENR 11/27/47.

●**B. C., Victoria**—J. M. Somerville, secy. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., dominion public bldg., Yates and Langley Sts. Approx. $2,000,000. Plans deposit $200. Extended date. G. Brault, c/o owner, archt. CD 5/16—ENR 5/19.

June 16

Calif., South San Francisco—South San Francisco Unified School Dist., South San Francisco, 1 story, steel, concrete, frame Buri Buri School. Approx. $250,000. Plans deposit $25. Bamberger & Reid, 417 Market St., San Francisco, archts. CD 6/12/47—ENR 11/27/47.

June 20

●**Ark., West Memphis**—Crittenden Co., West Memphis, hospital. $1,100,000 with equip. and fixtures. Dent & Aydelott, First National Bank Bldg., Memphis, Tenn., archts. CD 4/28—ENR 5/5.

●**Conn., Milford**—Bd. Educ., Milford, high school. $3,000,000. William Provost, 42 Main St., Stamford, archt. CD 7/26/45—ENR 8/9/45.

✦**Tex., Camp Hood (P. O. Killeen)**—U. S. Eng., 606 Santa Fe Bldg., Galveston, 29 masonry apartments. $3,400,000.

June 22

N. Y., Syracuse—R. W. Sollinger, Purch. agt. Onondaga Co., Courthouse, general contract with arch-rib concrete roof structure, plumbing, heating, ventilating, air-conditioning, rink piping, electrical work, for Onondaga County War Memorial Auditorium. Plans deposit $50. Edgarton & Edgarton, 401 Herald Bldg., engrs. and archts. CD 4/13—ENR 4/29.

●**Pa., Harrisburg**—Dpt. Property & Supplies, 18 and Herr St., admission bldg. at Harrisburg State Hospital. $1,750,000. Plans deposit $15. Lawrie & Green, 321 N. Front St., archts. A. F. Jones, c/o owner, ch. engr. CD 1/31/48—ENR 5/16/46.

✦**Tex., Camp Hood (P. O. Killeen)**—U. S. Eng., 606 Santa Fe Bldg., Galveston, 176 masonry brick or stone facing family housing units, concrete slab fdn., Inv. No. 41-243-49-295. $1,250,000. CD 5/16—ENR 5/26.

June 28

●**Ont., Sudbury**—Planning Com., c/o Sudbury Co., M. L. Keaney, secy., 260x282 ft., concrete, brick, steel civic center, incl. ice arena. Approx. $1,200,000. J. B. Sutton, 99 Larch St., archt. H. H. Angus & Assoc. Ltd., 1221 Bay St., Toronto, engrs. CD 12/13—ENR 12/23.

July 14

●**Minn., St. Paul**—Minnesota State Horticultural Society, R. Lee, secy., Administration Bldg., State Fair Grounds, 276x400 ft. hippodrome bldg., incl. bleachers and arena, $1,200,000. K. C. Wright & Assoc., Administration Bldg., State Fair Grounds, St. Paul, archts. CD 3/26/47—ENR 4/3/47.

About July 15

●**Kan., Merriam** — Shawnee Mission High School Dist., Merriam, school exten. Approx. $2,500,000. Did not receive bids Mar. 1. CD 11/8—ENR 11/11.

Bids Asked

●**N. J., Salem**—The Ballinger Co., archt., 121 N. Broad St., Phila., Pa., hospital for Salem County Memorial Hospital, Salem. $1,145,000. CD 2/11—ENR 2/17.

LOW BIDDERS

Ala., Tuscaloosa—University of Alabama, May 18, science bldg., from Bruce Building Co., 130 S. 13 St., Birmingham, $370,918. CD 4/29—ENR 5/5.

Calif., Berkeley—Bd. Regents University of California, Berkeley, May 18, general contract 4 story, partial 70,000 sq. ft. structural steel, partial rein.-con. physics bldg. addn., from Parker, Steffens & Pearce, 133 S. Park St., San Francisco, $716,800. CD 4/19—ENR 4/21.

Calif., San Francisco—State Div. Architecture, P. Wks. Bldg., Sacramento, May 17, general contract 1 story, bsmnt., rein.-con. power house shops and physical education facilities bldg. (gymnasium and swimming pool) 75,000 sq. ft. floor area, at San Francisco State College Campus, from Empire Constr. Co., 344 Harriet St., San Francisco, $712,000. CD 4/25—ENR 5/5.

✦**Colo., Boulder**—U. S. Eng., P. O. Box 179, Denver, May 19, squadron warehouse, motor repair shop, repair shop alterations, for Colorado National Guard, from Jack H. Cys, 1745 Federal Blvd., Denver, $187,254.

Idaho, Nampa—P. Wks. Comr., Boise, May 12, nurses home and garage, dining room addn., State School and Colony, from C. B. Lauch Constr. Co., 435 Ada St., Boise, $259,-106. CD 5/4.

Mc., Portland—City, City Purch. Agt., City Hall, May 12, Deering Oaks Jr. High School, Deering and Park Avs., from Camillo Pfefenno Co., 25 Free St. $841,800. Gilbert Small & Co., Inc., 10 State St., Boston, Mass., structural engrs. Bids 3/3, rejected, L. B. $827,700. CD 3/9—ENR 3/17, under LB.

✦**Md., Bethesda**—U. S. Pub. Bldgs., Admin., 1310 F St. N. W., Wash. D. C., Apr. 29, facility bldg., National Institute of Health, from McCloskey & Co., 1620 W. Thompson St., Phila., Pa., $948,000.

Mass., Amherst—Commonwealth of Massachusetts, University of Mass., R. D. Hawley, treas., Amherst, May 18, U-101 electrical engineering wing, from M. J. Walsh Sons, Inc., 14 Shawmut Ave., Holyoke, $397,892. CD 5/11.

Mass., Athol—Athol Memorial Hospital, G. P. Hollander, Chm. Bldg. Comm., Athol, May 17, hospital, 435 Main St., from William Belbin, 1333 Main St., $623,630. CD 5/11—ENR 5/19.

●**Mass., Everett**—City of Everett Housing Auth., 48 Elm St., May 17, veterans housing Proj. 200-1, Glendale Park, from S. Volpe & Co., Inc., 150 Congress St., Boston, $2,598,000. CD 5/11.

●**Mass., Fitchburg**—City of Fitchburg Housing Auth., M. J. Conlon, Jr., Pres., Fitchburg, May 18, 160 unit veterans housing, from R. Perini & Sons, Inc., 73 Montwait Ave., Framingham, $1,349,633. C. W. Buckley, 311 Main St., Worcester, archt. Drummey-Duffill, Inc. 8 Bowlston St., Boston, engr., CD 4/27—ENR 5/5.

Mass., Roxbury — Childrens Hospital, 300 Longwood Ave., May 19, isolation bldg. addn., 300 Longwood Ave., from Vara Constr. Co., Inc., 718 Huntington Ave., Boston, $339,000. CD 5/11.

✦**N. J., Dover**—U. S. Eng., 120 Wall St., New York 5, N. Y., May 19, rocket and powder bldg. at Picatinny Arsenal, from Sorrano Contg. Co., 200 Evergreen Ave., Cedar Knolls, $193,028. CD 4/28—ENR 5/19.

✦**N. M., Albuquerque**—U. S. Eng., P. O. Box 1538, May 13, 133x173 ft. masonry gymnasium, steam heating, courts, outside utilities, Serial No. Eng-29-005-49-76 from Lembke Constr. Co., P. O. Box 144, $258,763. Est. $250,000. CD 4/19—ENR 4/21.

✦**N. M., Los Alamos**—U. S. Atomic Energy Comn., Los Alamos, May 17, Group 12, 40 frame prefabricated type housing units. Inv. 291-49-5, from Shaw & Estes, P.O. Box 60, Dallas, Tex. $397,923. CD 5/4.

✦**N. M., Los Alamos**—U. S. Atomic Energy Comn., Los Alamos, May 12, 18 rein.-con. type, 10,500 sq. ft. floor space buildings, appurtenances, incl. area grading, fencing, paving, water, sanitary sewer system, from Robert E. McKee, P.O. Drawer 562, El Paso, Tex. $617,000. CD 5/4.

O., Springfield—Bd. Educ., Springfield, general contract school, from George Sheaf & Co., 449 Neilston St., Columbus, $394,000. CD 3/9—ENR 3/31.

Ore., Klamath Falls—Klamath Co., Courthouse, May 18, 3 story, 128x180 ft., rein.-con., brick county jail from H. & R. Constr. Co., 110 Market St. San Francisco, Calif. $333,227. CD 4/11—ENR 4/21.

Pa., Ardmore—Lower Merion School Dist., Ardmore, selected bids May 10, school at Penn Wynne, $300,000. Will readvertise. CD 5/2—ENR 5/5.

Pa., West Chester—Comrs., Chester Co., West Chester, Apr. 14, Home for Indigent Poor, from McCloskey & Co., 1620 W. Thompson St., Phila., $734,000. Baader, Young & Schultze, 1500 Walnut St., Phila., archts.

✦**South Dakota**—U. S. Eng., 1709 Jackson St., Omaha, Neb., May 20, housing and facilities for Oahe Reservoir Proj. near Pierre, Inv. No. 25-066-49-233, from Tri-State Constr. Co., Sioux City, Ia. $643,750. CD 4/26—ENR 4/28.

Wash., Seattle—School Dist. 1, 810 Dexter Ave., May 18, general contract Fauntleroy School addns., from O. E. Turnquist Constr. Co., Orpheum Bldg. $286,931. CD 5/11.

Wis., Appleton—Bd. Educ., Appleton, May 18, general contract school, from Steiner Constr. Co., Appleton, $495,410. CD 4/6—ENR 4/7.

●**Wis., Milwaukee**—Housing Auth. of Milwaukee, 844 N. Market St., Zone 2, May 18, 392 units of Veterans Permanent Housing Proj. II, from Sherry-Richards Co., 201 N. Wells St., Chicago, Ill., $2,779,300. CD 5/11.

Que., Three Rivers—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., May 18, post office bldg. addns., alterations, from Romeo Martel, 868 St. Jacques St., Approx. $668,270. CD 5/2—ENR 5/5.

CONTRACTS AWARDED

California—State Div. Architecture, P. Wks. Bldg., Sacramento, five 1 story, Type A armories, with rein.-con. floors, and walls rigid steel bents, 11,000 sq. ft. floor area, in Corona, Montebella, Orange, Oxnard and Redlands, in Ventura, San Bernardine, etc., to L. P. Scherer, 2038 Orange St., Redlands. $358,160. CD 4/19—ENR 4/21.

Calif., Fresno—Fresno Co., Courthouse, concrete block, shop and garage, to Lewis C. Nelson & Sons, 2820 Lee St., Selma, $132,000. Bids 5/17.

Calif., Richmond—Richmond School Dist., 1108 Hisell Ave., 1 story frame J. C. Ford School, to Gaspard & Henderson Constr. Co., 33 Ritch St., San Francisco, $266,099. Bids 5/18, awarded 5/18. CD/5/3—ENR 5/5.

●**Calif., Stockton**—Stockton Unified School, 324 N. San Joaquin St., 2 story, concrete, steel, stucco Franklin High School, to Barrett & Hilp, 918 Harrison St., San Francisco, $2,275,-388. Bids 5/10. CD 5/17—ENR 5/26.

Calif., Sunnyvale—Sunnyvale School Dist., 770 W. McKinley Ave., (2nd unit) rein.-con. 70,000 sq. ft. school, to Lew Jones Constr. Co., 150 Post St., San Jose, $355,000. Bids 5/19, awarded 5/19. CD 5/2—ENR 5/5.

Calif., Weaverville—Trinity Co., Courthouse, 1 story bsmnt., rein.-con., 20-bed hospital, to H. W. Robertson, 2917 T St., Sacramento, $231,327.

Conn., Storrs—State, Raymond S. Thatcher, comptroller, 114 State Capitol, Hartford, ninety 4 and 6 room dwelling units, University of Connecticut, to F. D. Rich Co., Inc., 101 Park Ave., New York, N. Y., $848,792. Bids 5/4. Correction—name of contractor). CD 5/23—ENR 5/26, under CA.

Ill., Des Plaines—Community Consolidated School, Des Plaines, brick, steel school addn., to Ashland Sons Co., 680 N. Clark St., Chicago, $260,000. Childs & Smith, 20 N. Wacker Dr., Chicago, archts.

●**Mass., Amherst**—University of Mass., Alumni Bldg. Assn., Alden C. Breck, pres., Amherst, 3 story, bsmnt. university apartments, to D. A. Sullivan & Sons, Inc., 82 North St., Northampton, Approx. $250,000. Bids 3/29, awarded 4/11. CD 3/16—ENR 3/24.

Mass., Dedham—Town of Dedham Housing Auth., Memorial Hall, 381 Washington St., Housing Proj. 200-1, Oakland Rd., East Dedham, to F. C. Dolan & Son, 1 Adelaide St., Jamaica Plain, $681,282. Bids 4/6, awarded 5/11. CD 4/14—ENR 4/21, under LB.

●**Mass., Fall River**—City of Fall River Housing Auth., 151 Sunset Hill, 196 unit veterans Proj. 200-2, Maple Gardens, to E. Turgeon Constr. Co., Inc., 814 Turks Head Bldg., Providence, R. I., $1,699,671. Bids 5/11, awarded 5/16. CD 5/17—ENR 5/26, under LB.

Mass., Milton—Milton Hospital and Convalescent Home, L. U. Pierce, pres., 101 Edgehill Rd., hospital, Edgehill Rd., to Potter-Horn, Inc., Statler Bldg., Boston, $762,222. Clerkston-Varney-Pike, 120 Tremont St., Boston, engrs. Bids 5/18, awarded 5/20. CD 5/11.

●**Mass., Waltham**—City of Waltham Housing Auth., City Hall, Housing Proj. 200-1, Prospect Hill Rd., to Bennett-Sharkey Co., Inc., 105 Newbury St., Boston, $1,219,334. Bids 5/13, awarded 5/20. CD 5/20—ENR 5/26, under LB.

Mo., Rolla—Phelps Co. Public Memorial Hospital, Bd. Trustees, F. H. Blue, pres. and D. L. Stuart, secy., Rolla, 2 story, 50x210 ft. and 42x65 ft. T-shaped, brick, rein.-con. hospital, to Robert Paulus Constr. Co., 3457 Morganford Rd., St. Louis, Zone 16, $574,725. Bids 3/23. CD 4/1—ENR 4/7, under LB.

N. Y., Fulton—Bd. Educ., 4 St., school, to Allen T. Brown Constr. Co., Inc., 402 S A & K Bldg., Syracuse, $494,000. Bids 5/17. CD 4/28—ENR 5/5.

O., Findlay—Bd. Educ., W. Main St., Northview and Jefferson Schools, to Knowlton Constr. Co., Fremont, $398,600. Bids 5/18. CD 5/11.

O., Xenia—Bd. Trustees Greene Co. Home, Xenia, general contract 3 story, bsmnt., 75 bed hospital, to Charles Shook, 582 W. 2 St., Dayton, $818,460. Bids 4/19, awarded 5/19. CD 3/16—ENR 3/24.

Okla., Blackwell—Bd. Educ., Blackwell, Houston School and razing old bldg., to Hoke Constr. Co., 218 W. 9 St., Stillwater, $324,556. Awarded 5/17. W. W. Candell, College Station, Tex., archt. CD 11/17/48—ENR 12/23/48.

Okla., Ponca City—Bd. Educ., Ponca City, Lincoln School, to Robertson Constr. Co., 413 S. Elm St. $108,140. Est. $100,000. Awarded 5/16. CD 4/13—ENR 4/21, under LB.

Alta., Red Deer—Province of Alberta, Edmonton, public works dept. maintenance bldg., to Burns & Dutton Constr. Co., Ltd., 5440 First St. W., Calgary, $140,500. Bids 5/4. CD 4/25.

Ont., Orillia—Orillia Collegiate Institute Bd. & Dist., Mrs. R. Maconachie, Coldwater, 2 story, 117x200 ft. steel, brick Collegiate Insti-

tute addn., to Bennett & Pratt Ltd., 30 Bloor St. W., Toronto, Approx. **$535,000.** Bids 4/28. CD 4/11—ENR 4/21.

COMMERCIAL BUILDINGS

BIDS ASKED

June 7

N. Y., Hornell — St. James Mercy Hospital, Hornell hospital addn., alterations. $755,000. Plans deposit $30. Nicholas Masucci, 311 Alexander St., Rochester, archt.

N. C., Lumberton — Southern Bell Telephone Co., Hurt Bldg., Atlanta, Ga., telephone exchange bldg. Shutze & Armistead, Candler Bldg., Atlanta, Ga., archts.

June 8

Mass., Waltham — Notre Dame Training School, 62 Newton St., 3 story, basmt., brick school addn., Newton St., approx. $250,000. J. E. Kelley, 45 Bromfield St., Boston, archt.

●**Vt., Burlington** — Mary Fletcher Hospital, Colchester Ave., 5 story Y shape, brick hospital addn. $2,000,000. McKim, Meade & White, 101 Park Ave., New York, N. Y., archts.

June 10

N. C., High Point—High Point Memorial Hospital, Inc., Sheraton Hotel, hospital. Plans deposit $100. Charles C. Hartmann, 120 Jefferson Standard Bldg., Greensboro, archt. CD 6/25/46—ENR 7/4/46.

Wis., Stevens Point — St. Stanislaus Catholic Congregation, 504 N. Fremont St., 3 story, 62x200 ft., steel, brick school addn. concrete fdn. F. J. Stephnoski & Son, 104 S. Main St., Fond du Lac, archts. CD 9/10/48—ENR 9/23/48.

About June 15

Fla., Jacksonville—Y.M.C.A., c/o Jefferson D. Powell, archt., Atlantic National Bank Bldg., Y.M.C.A. bldg. $500,000. CD 3/24/48—ENR 4/8/48.

June 15

O., Norwood—Young Mens Christian Assoc., Sherman and Walters Aves., 3 floor levels Y.M.C.A. bldg. $250,000. Potter, Tyler & Martin, 128 E. 6 St., Cincinnati, archts. CD 1/8/45—ENR 1/28/45.

June 16

Ind., Fort Wayne—Missionary Church Assn., 3820 S. Wayne Ave., 2 story, bsmnt. headquarters, Rudisbill Blvd. and S. Wayne Ave $250,000. LeRoy Bradley, 1115 S. Clinton St., archt. CD 5/20.

June 17

Calif., Los Angeles—University of Southern California, 3551 University Ave., 2 story, brick, concrete cafeteria bldg. $600,000. Heitschmidt & Metchan, 449 S. Beaudry St., archts. CD 1/14—ENR 2/3.

June 28

N. D., Minot — Young Mens Christian Assoc., Minot, Y.M.C.A. bldg. $440,000. George Gugenhagen, Minot, archt. CD 12/23—ENR 1/20.

Bids Asked

●**Tex., Houston** — **Katy Park Industrial** Development Corp., co Tom C. Mabry, vice pres., M-K-T Ry. Co., 1811 Ruiz St., 20 story masonry, steel, concrete office and terminal. N. Main St. opposite M. & M. Bldg. $15,000,000. Wyatt C. Hedrick, 15201 Fannin St., engr. and archt. CD 5/20.

SOON LETS CONTRACT

Ark., Rogers — Rogers Memorial Hospital Assn., Rogers, soon lets contract memorial hospital as public proj., John Parks Almand, 1305 Louisiana St., Little Rock, archt.

Calif., Patterson — Patterson Community Hospital Dist., S. 8 St., soon lets contract 1 story frame 25 bed hospital, $325,000. Plans deposit $100. Douglas D. Stone and Lou B. Mulloy, 619 California St., San Francisco, archts. CD 5/10—ENR 5/12, under LB.

Ill., Wheeling—Servants of St. Mary, c/o Barry & Kay archts., 53 W. Jackson St., Chicago, soon lets contract, 3 story brick, concrete, steel, stones, rest home, pump house.

Ia., Corning — Rosary Hospital, Corning, soon lets contract hospital, $600,000, incl. equip. Extended date. Wetherell & Harrison, Shops Bldg., Des Moines, archts. CD 3/14—ENR 3/17.

●**La., New Orleans**—De Paul Sanitarium, Sister Ann, administrator, 1038 Henry Clay Ave., soon lets contract 5 story, 88x235 ft. concrete, brick, limestone bldg. addn. $1,250,000. Andry & Teitel, Carondelet Bldg., archts. CD 4/19—ENR 4/21.

Pa., Allentown — Sons of Italy Lodge 653, 521 Walnut St., soon lets contract, club addns., alterations. Approx. $250,000. Frank L. Petrillo, 1411 Walnut St., Phila., archt.

Pa., Drexel Hill — St. Dorothy's Roman Catholic Church, 1108 Beifield Ave., soon lets contract school. $250,000. Henry D. Dagit & Sons, 1329 Race St., Phila., archts.

Tex., Dallas — Lone Star Gas Co., 1915 Wood St., soon lets contract, 2 story masonry, concrete, steel office, concrete slab fdn. $250,000. Mark Lemmon, 1210¼ Main St., engr.

Tex., Tyler—B. P. O. E. Lodge, 215 Citizens Bank Bldg., soon lets contract Elks Club, $250,000. Gregory & Cates, 207 W. Erwin St., archts. CD 3/23—ENR 4/7.

Que., Hull—F. J. McNab, Hazelgrove & Lithwick, archts., 53 Queen St., Ottawa, Ont., soon lets contract, 2 story, bsmnt., 48x60 ft., rein.-con. brick, stone telephone exchange, for Bell Telephone Co. of Canada, 1050 Beaver Hall Hill, Montreal, Approx. $500,000. CD 5/2—ENR 5/19.

LOW BIDDERS

Conn., Storrs—Hillel Foundation, c/o Ebbets Frid & Prentice archts., 862 Asylum Ave., Hartford, and Julius Berenson, assoc. archt., 48 Forest St., Hartford, rejected bids Apr. 16, brick, stone synagogue, University of Connecticut. Will readvertise. CD 4/5—ENR 4/14.

Mass., Concord—Emerson Hospital, Rd. to Nine Acre Ave. May 12, hospital addns., alterations, from Thomas O'Connor & Co., 238 Main St., Cambridge, **$826,200.** Est. $670,000. CD 5/11—ENR 5/19.

Pa., Danville—George F. Geisinger Memorial Hospital, Danville, May 9, hospital addn., from Ralph Woelfel, Markle Bank Bldg., Hazelton, **$824,400.** CD 5/3—ENR 5/12.

Pa., Lehighton—Gnaden Huetten Memorial Hospital, Lehighton, May 12, memorial hospital, from H. A. Williams, Inc., 437 N. 23 St., Allentown, **$124,600.** CD 4/27—ENR 5/5.

CONTRACTS AWARDED

Calif., Bellflower—Phoenix Homes, 642 S. Western Ave., Los Angeles, 31 stucco dwellings and garages, Owner builds **$317,900.** G. W. Lundberg, 650 S. San Vincente St., Los Angeles, archt.

Calif., Whittier — Rancho Whittier, 2486 Huntington Dr., San Marino, 42 stucco dwellings and garages on scattered lots, to Thomas Companies, 2486 Huntington Dr., San Marino, Approx. **$286,100.**

●**Conn., Greenwich** — Greenwich Hospital, 18 W. Putnam Ave., general contract hospital addn., to George A. Fuller Co., 57 St. and Madison Ave., New York, 22, N. Y. Approx. **$4,760,000.** Bids 5/5. CD 3/31—ENR 4/7.

Fla., Miami — Sunset Gardens, c/o M. M. Ungaro, 414 Olympia Bldg., 144 apartment units, S.W. 55 Ave. and 76 St. Owner builds, approx. **$500,000.**

Ill., Chicago — Air Line Pilots Assoc., 5440 S. Cicero St., office bldg., to Power Constr. Co., 212 S. Marion St., Oak Park, **$325,000.** Awarded 5/5. Rapp & Rapp, 230 N. Michigan St., archt. CD 12/23—ENR 12/30.

Ill., Chicago—Goldblatt Bros., Inc., 333 S. State St., masonry and carpentry contract 3 story, brick, concrete, steel stone department store addn., 322 S. Wabash St., to Inland Constr. Co., 134 S. LaSalle St. CD 4/11—ENR 4/21.

Ill., Chicago—A. Pritzker & R. Mark, 134 N. LaSalle St., 1 and 2 story, brick, steel, concrete store, to Inland Constr. Co., 134 N. LaSalle St., Approx. **$500,000.** Work under way. F. W. Woolworth & Co., lessee, Shaw, Metz & Dolio, 208 LaSalle St., archt.

Ind., Hammond — Congregation of First Baptist Church, Hammond, 3 story, bsmnt., brick, steel church addn., to Peter Becker, 308 W. Elizabeth St., Calumet City, Ill., **$250,000.** Daniel D. Merrill, 225 W. 57 St., New York, N. Y., archt. CD 12/23/46—ENR 1/2/47.

Ind., Warren—Methodist Memorial Home, Rev. C. C. Souder, supt., Warren, old folks home, to Hagerman Constr. Co., 403 E. Superior St., Fort Wayne, Ind., Approx. **$500,000.** Bids 5/17, awarded 5/18. CD 5/10—ENR 5/12.

Kan., Wichita — Grandview, Inc., 5506 E. Gilbert St., 3 story apartment, stores, to Moreland Constr. Co., 140 Laura St., **$350,000.** Overend & Boucher, Brown Bldg., archts.

●**Mich., Benton Harbor** — Mercy Hospital Assn., Benton Harbor, 3 story, brick, rein.-con. hospital addn., to Pearson Constr. Co., 240 W. Brittain St. Approx. **$1,000,000.** Bids 4/15. CD 3/18—ENR 3/24.

Minn., Minneapolis — Lutheran Church of the Good Shepherd, York Ave. S. and 44 St., general contract 1 story, bsmnt., stone church, France Ave. S. and 48 St., to Peterson Bros., 2201 Bryant Ave. S., Approx. **$250,000** Hills, Gilbertson & Hayes, 1409 Willow St., archts.

O., Euclid—Sam Feiner, Inc., 2419 Canterbury Rd., Cleveland Heights, sixty-three 1½ story, bsmnt. residences, 255 to 316 E. 255 St., separate contracts. **$630,000.**

O., Gambier—Kenyon College, Gambier, rebuilding mens' dormitory, to George A. Fuller Co., 597 Madison Ave., New York, N. Y. Awarded 5/17.

●**O., Toledo**—Sisters of Charity of St. Vincent's Hospital, 2213 Cherry St., 7 story, 260 bed wing for St. Vincent's Hospital, to A. Bentley & Sons, 201 Belmont St., **$3,650,000.** CD 7/19/48—ENR 7/29/48.

Ore., Portland—Mary-Kae, Inc., 7535 N. E. Glisan St., 42 unit frame apartment proj., S. E. 57 Ave., to Coates Constr. Co., 7535 N. E. Glisan St. **$336,000.** Don Byers, Builders Exchange Bldg., archt.

●**Pa., Lancaster**—River Park Gardens, Inc., c/o Aaron Colish, archt., 117 S. 17 St., Phila., apartment development, Lancaster Pike to Stone Constr. Co., 1717 Brandywine St., Phila., **$1,000,000.**

●**Pa., Lansdowne** — Wildman Arms Apartments, 86 W. Baltimore Ave., apartment development, to Commonwealth Building & Supply Corp., 117 S. 17 St., Phila., **$2,500,000.** Aaron Colish, 117 S. 17 St., Phila., archt.

Pa., Phila. — Kingston Homes, Inc., 5501 Torresdale Ave., residential development, Jackson and Burton Sts., separate contracts. **$256,000.**

Pa., Phila. — Stenton Hills Corp., 901 Sharpnack St., residential development, Barringer St., separate contracts. **$250,000.**

Pa., Spring Mount—Lower Frederick Fire Co., Spring Mount fire house and community bldg., to John S. Blair, Graterford, **$250,000.** CD 2/6—ENR 10/18.

●**Utah, Salt Lake City**—Kearns Townsite, Inc., c/o Fred L. Markham, engr. and archt. Provo and Ogden, 2,400 one story 730 sq. ft. floor space frame residences to Utah Constr. Co., 57 E. 4 South St., Approx. **$20,000,000.**

●**Wash., Seattle** — Seaview Development Co., 921 Elliott Ave., W., four 3 story bsmnt. frame apartments, day labor, **$1,500,000.** CD 2/25—ENR 3/10.

Ont., Cornwall—The Tatham Co. Ltd., P. O. Box 429 Cornwall, 100 houses, Dover Heights, Owner builds, **$800,000.**

Ont., Oshawa—N. Johansen & Sons., 369 Division St., 50 houses, own forces, Approx. **$320,100.**

Ont., Ottawa—The Dominion Bank, Sparks and Bank Sts., 3sx100 ft. bank addns., to Ross-Meagher, Ltd., 9 Echo Dr., Approx. **$300,000.** D. E. Kertland, 36 Summerhill Gardens, Toronto, archt.

Que., Ahuntsic (Postal Dist. Montreal)—Roman Catholic Parish of St. Nicolas, 10820 Lavendure Blvd., 57x168 ft., rein.-con., stone church, Grande Alley, to J. P. Cartier, 2 Bellechase St., Montreal, Approx. **$350,000.** CD 2/25—ENR 3/3.

Que., Granby—Parish of L'Assumption Rev. A. Barlinguette, cure., Granby, 55x168 ft., rein.-con., stone church and presbytery, St. Charles and Horner Sts., to Laurent Giroux, 671 Chemin Ste. Foye, Quebec City, Approx. **$250,000.** R. Blanchet, 53 d'Anteuil St., Quebec City, archt.

INDUSTRIAL BUILDINGS

BIDS ASKED

During June

O., Mansfield—PLANT—Mansfield New Journal, S. A. Horvitz, publisher, 24 W. 4 St., plant, $500,000 Charles W. Conklin, Farmers Bank Bldg., archt. Vincent Eaton, Caxton Bldg., Cleveland, engr. Paul C. Mehnert, 2232 Cunnington Rd., Cleveland, electrical engr. CD 4/11—ENR 4/21.

June 7

N. C., Clinton—PACKING PLANT—Lundy Packing Plant, Clinton, packing plant. Approx. $150,000. Plans deposit $25 for general, $10 for mechanical. F. Carter Williams, 133 Fayetteville St., Raleigh, archt. CD 2/2—ENR 2/10, under LB

About June 15

N. C., Henderson—SALES and SERVICE—Ellis Motor Co., Henderson, auto sales and service bldg. James M. Edwards, Jr., Insurance Bldg., Raleigh, archt.

June 22

Tenn., Memphis — BUS TERMINAL — Dixie Greyhound Bus Lines, c/o Furbringer & Ehrman, archts., Planters National Bank & Trust Co. Bldg., bus terminal. Approx. $500,000. CD 1/28/48—ENR 2/19/48.

Bids Asked

N. J., Camden—PLANT—William T. Harker, engr., 307 Market St., food processing plant, for Kaplan & Zubrin, 713 Kaigh Ave. Approx. $70 000.

Pa., Phoenixville—PLANT—Mohawk Carpet Co., Phoenixville, 1 and 2 story, 120, sq. ft. brick felt mfg. plant. Approx. $68,000. Charles T. Main, Inc., 80 Federal St., Boston, Mass., engr.

Tex., Cuero — BOTTLING PLANT, etc. — Coca Cola Bottling Co., Cuero, masonry bottling plant and warehouse. $75,000. Page, Southerland & Page, 602 West Ave., Austin, engrs.

●**Tex., Houston**—WAREHOUSE—Katy Park Industrial Development Corp., c/o Tom C. Mabry, vice pres., M-K-T Ry., 1811 Ruiz St., 180x300 ft. masonry, steel warehousing proj., N. Main St. opposite M & M Bldg. $5,000,000. Wyatt C. Hedrick, 5201 Fannin St., engr. and archt. CD 5/20.

SOON LETS CONTRACT

Tex., Houston—WAREHOUSE—G-G Realty Co., Inc., 1606 Young St., Dallas, soon lets contract 54x254 ft. brick warehouse, concrete slab fdn. $125,000. George W. Edwards, 1509 A Cochran St., Dallas, engr. CD 5/6—ENR 5/26.

Wis., Sheboygan—GARAGE—La Salle Coca Cola Bottling Co., Sheboygan, soon lets contract 1 story, L shaped, 78x163 ft., steel, concrete block truck garage, concrete fdn. Eschweiler & Eschweiler, 720 E. Mason St., Milwaukee, Zone 2, archts.

Wash., Seattle — SHOP, etc. — Northwest Greyhound Lines Inc., 8 Ave. and Stewart St., Zone 1, soon lets contract 1 story 50x161 ft. and 52x184 ft., and 2 story 27x103 ft., concrete, masonry shop and garage addns. $250,000. V. W. Voorhees, 200 Greyhound Bus Depot, archt. CD 2/16—ENR 3/17.

LOW BIDDERS

Ga., Atlanta—GARAGE—Davison-Paxon Co., c/o low bidder, May 18, auto parking garage, from Barge-Thompson Co., 136 Ellis St. N.E., $205,550. CD 5/6—ENR 5/12.

Tex., Van Alstyne—SUPPLY and STORAGE—Grayson-Collin Electric Co-operative, Inc., Van Alstyne, May 17, masonry supply and storage bldg., concrete slab fdn., from Fielders Supply Co., Van Alstyne, **$74,049.** B. W. L. Lanum-H. B. Gleb, 1207 Texas Bank Bldg., Dallas, archts.

CONTRACTS AWARDED

Calif., Eureka—SALES and SERVICE—Carl E. Gustafson, 5 and H Sts., 1 story, rein.-con., wood frame, stucco auto sales and service, to Mercer Fraser Co., 2 and Commercial Sts., **$108,923.** Bids 5/20, awarded 5/20. CD 5/10—ENR 5/19.

Calif., Lynwood — WAREHOUSE — Pacific Iron & steel Co., 11633 S. Alameda St., 180x190 ft. steel warehouse. Owner builds. **$250,000.**

●**Calif., San Leandro**—WAREHOUSE—Lucky Stores, Inc., 377 2 St., Oakland, 160,000 sq. ft. rein.-con. granite warehouse, 15,000 sq. ft. frame administration bldg., auditorium, cafeteria, kitchen and truck repair bldg., air conditioning, to MacDonald, Young & Nelson, 351 California St., San Francisco. Approx. **$1,500,000.** L. H. Nishkian & B. L. Nishkian, 1045 Sansome St., San Francisco, engrs. CD 1/14—ENR 2/3.

Conn., East Hartford—TERMINAL—Sun Oil Co., Riverside Dr., brick terminal exten., incl. 1 story garage and office addn., Riverside Dr., to Industrial Constr. Co., 721 Main St., Hartford, Approx. **$68,000.**

Conn., New Britain — ROLLING MILL — Stanley Works, New Britain, 1 story, 82x84 ft. brick, structural steel rolling mill addn., concrete fdn., to Turner Constr. Co., 420 Lexington Ave., New York, 17, N. Y. Work under way. R. J. Willoughby, New Britain, engr.

Fla., Jacksonville — WAREHOUSE — Pan-Atlantic Steamship Lines, Municipal Docks, steel frame and corrugated steel siding warehouse, Municipal Docks and Terminals on Talleyrand Ave. and St. Johns River. Owner builds. **$150,000.**

Ga., Lyons—WAREHOUSE, etc.—Altamaha Electric Membership Corp., Lyons, warehouse and office, to A. B. Newton, Vidalia. Approx. **$75,000.** Bids 5/11. CD 4/20—ENR 5/5.

Ill., Chicago — TERMINAL — Chicago, Milwaukee, St. Paul & Pacific R. R. Co., R. J. Middleton, ch. engr., 516 W. Jackson St., Zone 6, steel, brick railroad terminal, 2359-81 W. Grand Ave., to Ragner Benson, Inc., 4744 W. Rice St., **$225,000.** Awarded 5/13. K. E. Hornung, 516 W. Jackson St., archt.

Ill., Chicago—PLANT—Siegel-Weller Packing Co., 4535 S. McDowell St., brick, steel second floor addn., packing plant, to Rune & Son, 5760 S. Stony Island Ave., **$70,000.** H. C. Christensen, 600 S. Michigan St., archt.

Ill., Evanston—FACTORY—Owner, c/o contractor 1 story, 150x340 ft. brick, steel factory, Edwin F. Hartrich & Sons, 141 W. Jackson St., Chicago, **$255,000.** Awarded 5/12. Albert Eisemandr, 141 W. Jackson St., Chicago, archt.

Minn., St. Paul—FACTORY—DeLuxe Check Printers, Inc., 2531 University Ave., general contract 1 story 182x228 ft. factory, Wheeler St. and University Ave., to Steenberg Constr. Co., W. 1268 First National Bank Bldg., **$264,000.** Bids 4/29. CD 4/20—ENR 4/28.

Mo., St. Louis — PLANT — Anheuser-Busch, Inc., 721 Pestalozzi St., Zone 18, 1 story, 26x108 ft. dryer bldg., as starch plant, 1017 Pestalozzi St., to Willingham Constr. Co., 5701 Vernon Ave., Zone 12.

O., Cleveland — FACTORY — Hutchinson Realty, 1508 Rockefeller Bldg., 1 story, concrete block factory, 1078 W. 11 St., to Sam W. Emerson Co., 1836 Euclid Ave., **$90,000.** Christian Schwarzenberg & Gaede Co., 1836 Euclid Ave., engrs. and archts.

O., Cleveland—WAREHOUSE—United Motors Service, Div. of General Motors, General Motors Bldg., Detroit, Mich., 182x340 ft., brick, concrete parts warehouse, W. 110 St. at Lorain Rd., to Sam W. Emerson Co., 1836 Euclid Ave., **$335,000.** Awarded 5/10.

Okla., Alex—PLANT—Magnolia Petroleum Co., Magnolia Bldg., Dallas, Tex., 35 million cu. ft. capacity daily pressure maintenance and re-cycling plant in Chitwood gas field, Grady Co. plant will have four 880 h.p. compressor units and wet gas extraction units, to Construction Service Co., M. & M. Bldg., Houston, Tex., Zone 2, **$375,000.**

Okla., Woodward—GENERATING PLANT—Western Electric Co-operative, Woodward, diesel electric generating plant, to Tankersley Constr. Co., 1st Natl. Bldg., Oklahoma City, Zone 2, **$98,059.** Bids 1/15, awarded 5/16. CD 12/23—ENR 1/6.

Pa., Palmerton — SALES and SERVICE — John Aloi, 1634 S. Broad St., Phila., garage sales and service bldg., to Anthony Aloi & Sons, 1323 S. Broad St., Phila., **$70,000.**

Pa., Phila.—GARAGE—J. Kaplan, 1531 S. 6 St., 1 story, 75x150 ft., brick, block garage, to S. Kaplan, 4944 Walnut St. Approx. **$68,000.** I. W. Levin, 1531 Belmont Ave., archt.

Pa., Phila.—PLANT—Owner, c/o general contractor, 1 story masonry mfg. plant addn., Stone Constr. Co., 1717 Brandywine St., Approx. **$68,000.**

Pa., Phila. — TRUCK TERMINAL — Owner c/o general contractor, 1 story masonry truck terminal, to S. Yellin & Son, 222 N. 11 St. Approx. **$68,000.**

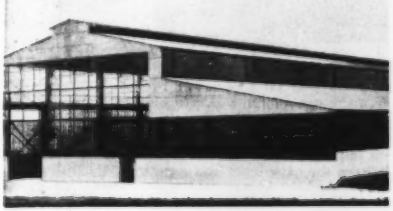
Pa., West Chester—PLANT—Grocery Store Products Co., Union and Adams St., food processing plant, to Campbell Lowrie & Lauter Milch Corp., 400 W. Madison Ave., Chicago, Ill.,

A typical Steel Building (at the right) designed by International to meet the specialized requirements of the citrus packing industry.

This 14-story office building (in circle) used 1,624 tons of International Steel. It is one of the first multi-story structures to use welded construction throughout.

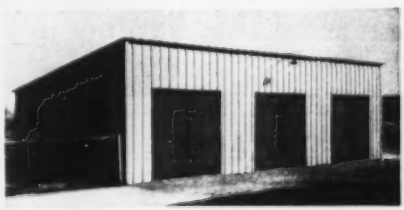
Want a steel supply shortcut LONG on advantages?

A *straight line* may be the shortest distance between two points . . . but the most convenient . . . economical shortcut between you and your source of building steel is the *DIVERSIFIED LINE* of structural steel items and steel buildings you can get at International. You gain time . . . reduce costs . . . and eliminate errors by depending on International to furnish *all* your structural steel needs. You can draw on International for light all-steel, easily moved warehouse, storage or utility sheds . . . heavy all-steel industrial and commercial structures . . . or steel trusses, girders, columns, roof decks and other building steel items. Take a shortcut . . . come to International . . . your ready source of supply for ALL your steel building requirements. Send us a sketch and specifications for your building problem TODAY. We will be glad to submit quotations and recommendations . . . free of charge.



A stone mill built with International steel. Very heavy operations of this kind may be readily conducted in International buildings.

One of International's easily moved, easily altered All-purpose steel buildings. This flexible unit is ideal for use as a machine shop, storage shed or garage.

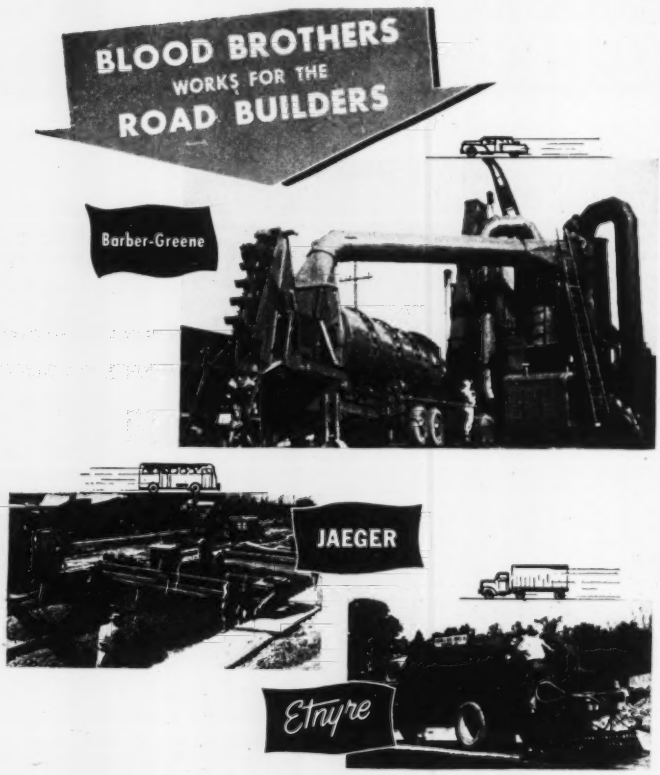


SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY

INTERNATIONAL Steel Co.

STRUCTURAL STEEL
STEEL BUILDINGS
STEEL TRUSSES
BUILDING PRODUCTS

1714 Edgar Street
Evansville 7, Indiana



Whether the roads be super-highways or farm-to-market by-ways, the machines that build and maintain them use Blood Brothers Universal Joints. Shown here are only three of the many road building "greats" which depend on Blood Brothers.

No matter what you build, you can depend on Blood Brothers to solve your problems in flexible power. We have the experience and production facilities to meet your requirements.

Write for complete engineering data.

Universal Joints for Industry

BLOOD BROTHERS MACHINE CO.

Allegan, Michigan • Chicago Office: 122 S. Michigan Ave.

Division of Standard Steel Spring Co.

DRILLING CONTRACTORS

DIAMOND AND SHOT CORE BORINGS — DRY SAMPLE BORINGS

Foundation Testing for Bridges, Dams and all Heavy Structures

Also

Manufacturers of Diamond and Shot Core Drills, Accessories and Equipment

SPRAGUE & HENWOOD, Inc.

Scranton, Pa. Dept. E, U. S. A.

"GUNITE" CONCRETE (Since 1918)

FOR • STEEL PLATE LINING • STEEL ENCASEMENT • BUILDING NEW WALLS • LINING WATER RESERVOIRS TUNNELS AND SEWERS • PLATE LINING OF STEEL STACKS, BUNKERS, DUCTS • REPAIR OF DISINTEGRATED CONCRETE AND MASONRY • CANAL, DITCH AND DRAIN LINING

GUNITE CONCRETE & CONST. CO.

1301 Woodswether Rd., Kansas City 6, Mo.

District Branch Offices

R. N. Turner, Dist. Mgr., 228 No. LaSalle St., Chicago 1, Ill.; B. H. Mueller, Dist. Mgr., 6625 Delmar Blvd., University City, (St. Louis), Mo.; Philip D. Barnard, Dist. Mgr., 2036 Addison, Houston 5, Tex.

Branch Offices: Denver, Dallas, New Orleans

See our catalog in Sweet's

$300,000. Olsen & Urbam, 5. S. Wabash Ave., Chicago, Ill., archts.

Tex., Beaumont — COMPRESSOR STATION Texas Eastern Tranamission Corp., Commerce Bldg., Houston, addnl. **compressor station,** to Brown & Root, Inc., Box 3, Houston, **$350,000.**

Tex., El Paso—POWER PLANT—El Paso Electric Co., Martin Bldg., power plant unit, own forces. Approx. **$250,000.** CD 4/1—ENR 4/15.

Tex., Houston—SUBSTATION, etc.—Houston Lighting & Power Co., 1016 Walker St., sub-station off Walker St., **$275,000;** electric shop, storage and display bldg., Washington Ave., **$300,000,** own forces. Carl G. Elliott, Jr., 4511 Kayle St., archt. on latter project. CD 3/24/47—ENR 4/3/47.

Tex., Spearman — BOOSTER STATION — Phillips Petroleum Co., Bartlesville, Okla., booster station (on gas pipeline), own forces. Approx. **$400,000.** CD 2/11—ENR 3/4.

Va., Richmond — SALES and SERVICE — Martin-Chevrolet Sales Co., Cowardin Ave. and Hull St., sales and service bldg., to James Fox & Sons, 2501 E. Franklin St., **$239,730.** H Carl Messerschmidt, 1124 Mutual Bldg., 9 and Main Sts., archt.

Wis., Oshkosh—WAREHOUSE—Hoffmaster Paper Co., Oshkosh, 1 story, 150x100 ft., steel, concrete block warehouse addn., concrete fdn., to Ben B. Ganther Co., 78 State St.

Ont., Toronto—BLAST FURNACE—Canada Metal Co. Ltd., 721 Eatern Ave., Toronto, 1 story, brick, concrete, steel, blast furnace bldg., to Kritzer & Confarge Co. Ltd., 1998 Dufferin St., Approx. **$70,000.**

UNCLASSIFIED

BIDS ASKED

June 7

†Md., Camp Detrick—CLOUD STUDY CHAMBER—U. S. Eng., 1 and Douglas Sts. N. W., Wash., 25, D. C., cloud study chamber addns., Serial No. 49-080-49-165. (42) M.

N. Y., Fort Wadsworth (Sta. Staten Island) —COMFORT STATION IMPRVS.—New York Housing Auth., 63 Park Row, New York Zone 17, heating and ventilating, electrical work, plumbing for comfort station, wading pool, sand pit and public playground for South Beach Houses, part of Proj. No. NYC 2, in area bounded by Parkinson Ave., Kramer St., Lamport Blvd., McClean Ave., Norway Ave., Reid Ave. and P. S. No. 46, Richmond Boro. Plans deposit $25.

June 8

†Va., Richmond—STEAM METERING SYSTEM—Pub. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, 11, steam metering sys. at Marine Corps Reserve Training Center, Spec. 22445. Plans deposit $10.

†W. Va., Morgantown—COAL BLENDING FACILITIES—U. S. Eng., 830 W. Broadway, Louisville 3, Ky., design and constructing coal blending facilities at Morgantown ordnance Works. Serial No. Eng-13-029-49-133. Extended date. CD 4/22.

Ont., Port Burwell—PIER—J. M. Somerville, secy., c/o Dpt. P. Wks., Hunter Bldg., Ottawa, reconstruction West Pier. Approx. $325,000. Plans deposit $50. R. Blais, c/o owner, engr.

June 9

Alabama—RURAL DISTRIBUTION LINES —Pea River Electric Corp., Clayton, 234 mi. rural distr. lines, Barbour, Dale and Henry Counties. Plans deposit $25. Mowbray Eng. Co., P. O. Box 93, Greenville, engr.

†Va., Fort Belvoir—AIR CONDITIONING— U. S. Eng., First and Douglas Sts. N. W., Wash. 25, D. C. modifications to air-conditioning Bldgs. 317 and 327, Serial No. Eng-49-080-49-169 (45) M.

June 10

Calif., Salinas—SWIMMING POOL—Y. M. C. A., Clay St., 35x75 ft. open air concrete swimming pool with lockers and dressing rooms, $75,000. Plans deposit $25. Charles E. Bratner, 7 Winham St., archt.

†N. M., Albuquerque—RECREATION CENTER—U. S. Eng., P. O. Box 1538, recreation center, Sandia Base, Serial No. 291-49-97.

About June 13

†N. M., Albuquerque—UTILITIES, STEAM DISTRIBUTION—U. S. Eng., P. O. Box 1538, utilities and steam distr. for Bachelor Officers' Quarters and Mess (Sandia Base EOP-919), Serial No. Eng-29-005-49-105.

June 14

†Arizona and Nevada — TRANSFORMERS, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo. furnishing, del. f.o.b. cars shipping point or f.o.b. cars Kingman (Louise), Ariz., transformers, resistors for Davis Power Plant, Davis Dam Proj., Spec. 2650. L. N. McClellan, ch. engr.

†Arizona and Nevada—CIRCUIT BREAKERS, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars at shipping point or Mesa, Ariz., outdoor power circuit breakers, outdoor, selector-type switches, outdoor disconnecting switches, lightning arresters for use on grounded-neutral circuit and ungrounded-neutral circuits, insulation class, outdoor potential transformers, bushings, outdoor current transformers for Mesa substation, Davis Dam Proj., Spec. 2652. L. N. McClellan, ch. engr.

Calif., Los Angeles—BATH HOUSE, etc.—Bd. Supervs. Los Angeles Co., 501 Hall of Records, bath house, at H. M. Newhall Memorial Park, Newhall, $87,000. Wolfe &

Thornon, 672 La Fayette Park Pl., archts.; Plummar Park Community Bldg., Los Angeles, $135,000, H. L. Gogerty, 3123 W. 8 St., archts. CD 2/5/46, under Public Buildings.

Calif., Los Angeles—COMMUNITY BLDG., etc.—Bd. Supervs. Los Angeles Co., 501 Hall of Records, Franklin Delano Roosevelt Memorial Park community bldg. and gymnasium, $130,000. Paul R. Williams & Adrian Wilson, 816 W. 5 St., archts.

Calif., San Francisco—PLAYGROUNDS IMPRVS.—Recreation Comn. of City and San Francisco Co., 61 Grove St., Corona Heights Playground imprvs. Approx. $50,000. Plans deposit $10.

†Wyoming—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver **Federal Center**, Denver, Colo., furnishing two 48 in. hollow-jet valves with control units and two 48 in. ring follower gates with hydraulic hoists, for Boysen Unit, Missouri River Basin Proj., Spec. 2673; adv. ENR 5/19. CD 5/25/44—ENR 6/15/44.

About June 15

Georgia—RURAL DISTRIBUTION LINES—Jackson Electric Membership Co-operative, Jackson, 150 mi. rural distr. lines, in Barrow, Jackson, Hall and Banks Counties. Patterson & De War, Rutland Bldg., Decatur, engrs. CD 4/13—ENR 4/28.

Kansas — RURAL DISTRIBUTION LINES — Radiant Electric Co-operative Inc., Howard L. Sell, mgr., Fredonia, 201 mi. rural distr. lines, sys. imprvs., Wilson Co. $325,000. Flora Eng. Co., 501 Jackson St., Topeka, engr. CD 4/21—ENR 5/5.

June 15

Georgia—RURAL DISTRIBUTION LINES—Amicalola Electric Membership Co-operative, Jackson, 20 mi. rural distr. lines, and conversion, in Pickens, Gilmer and Cherokee Counties, Patterson & De War, Rutland Bldg., Decatur, engrs. CD 5/1.

†Tenn., Oak Ridge—SITE DEVELOPMENT—U. S. Atomic Energy Comn., P. O. Box 365, site development, permanent business sect., Inv. No. 491-49-12 A. Plans deposit $25.

†Washington—TRANSMISSION LINE—Bonneville Power Admin., 729 N.E. Oregon St., Portland 8, Ore., 26.9 mi. Fairmont-Port Angeles 115 kv transmission line, Jefferson and Clallam Counties. Inv. 4637. Plans deposit $25.

†Washington—TRANSMISSION LINE—Bureau Reclamation, Ephrata, 13.8 kv. transmission line and taps from 115/13.8 kv. Burbank substation to Burbank Pumping Plant 1 (Region 1), Columbia Basin Proj., Spec. R1-CB-15.

†Territory of Hawaii—RADIO RANGE STATION—Civil Aeronautics Comn., P. O. Box 4009, Honolulu. Zone 12, construct VOR radio range station at Kiehei and V. H. F. repeater station at Keokea, Maui.

June 16

†Arizona and Nevada—TRANSMISSION LINE TOWERS, etc.—Bureau Reclamation, Dpt. Interior, Phoenix, Ariz., foundations and erecting steel towers for Mesa-Coolidge 230 kv transmission line, Davis Dam Proj., Spec. 2670. Extended date. CD 5/18—ENR 5/26.

California—SIGNAL SYSTEMS—State Div. Hys., State Bldg., Los Angeles, full traffic actuated signal sys. and by lighting on Rosemead Blvd. from Beverly Blvd. to Garvey Ave. G. T. McCoy, P. Wks. Bldg., Sacramento, state hy. engr.

†Washington—STEEL STRUCTURES—Bureau Reclamation, Dpt., Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point f.o.b. cars Odair, steel structures for eight transformer circuits and eight 230 kv. switchboard, Grand Coulee Power Plant, Columbia Basin Proj., Spec. 2686.

†W. Va., Morgantown—RAILROAD SPUR—U. S. Engr., 820 W. Broadway, Louisville 3, Ky., railroad spur at Morgantown Ordnance Works, Serial No. Eng-15-029-49-156.

June 23

†Colorado—TRANSMISSION LINES, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, 114-kilovolt transmission lines, Granby Pumping Plant to Estes Power Plant and Marys Lake Power Plant to Estes Power Plant between Granby and Estes Park and near Buchanan Pass on Continental Divide, Spec. 2647; 69-kilovolt transmission circuit, incl. cable from Estes Power Plant to west portal of Adams Tunnel and 115 kilovolt transmission line from Estes Power Plant to Marys Lake Power Plant in and near end of the Alva B. Adams Tunnel between Grand Lake and Estes Park, Spec. 2647, both Colorado-Big Thompson Proj. Extended date. CD 4/25—ENR 5/26.

†Nebraska—BATTERY CHARGER, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point f.o.b. cars Enders, one battery charger, motor-generator type and control equip., one battery charger, dry-disc type for Enders Dam, Frenchman-Cambridge Unit, Missouri River Basin Proj., Spec. 2671.

June 28

†California—SWITCHBOARD—Bureau Reclamation, Dpt., Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., 1 automatic telephone switchboard and 1 cordless manual telephone switchboard for Parker Dam Power Plant, Earp, L. N. McClellan, ch. engr.

LOW BIDDERS

Arkansas—RURAL DISTRIBUTION LINES—Valley Electric Co-operative, Ozark, May 10, rural distr. lines., Crawford, Franklin, Johnson, Sebastian Logan and Pope Counties, from B. B. Winsett & Co., Ozark, **$154,858.**

Calif., San Francisco—STREET LIGHTING SYSTEM—Pub. Utilities Comn., City Hall, May 17, street lighting sys. on Bush and Pine Sts. from Van Ness to Presidio Aves., Spec. 78, from Manning & Whitaker Inc., 375 9 St., San Francisco, **$89,410.**

†Colo., Camp Carson (br. Colorado Springs)—SWIMMING POOL—U. S. Eng., Railway Exchange Bldg., Denver, May 18, 1 story, 64x120 ft., brick, concrete, cinder block indoor swimming pool, approx. 7 mi. from Colorado Springs, from Raymond Whitlock, 1614 N. Tejon St., Colorado Springs, **$181,076.**

Kansas—RURAL DISTRIBUTION LINES—Smiky Hill Electric Co-operative Assn., Ellsworth, May 13, 260 mi. rural distr. lines, sys. imprvs., Ellsworth Co., from J. & J. Constr. Co., First National Bldg., Oklahoma City, Okla., **$420,913.** Est. $540,000. CD 5/11—ENR 5/19.

Ky., Shelbyville—SWIMMING POOL—City, City Hall, May 11, swimming pool from Clarke, Stewart & Wood, 326 Georgetown St., Lexington, **$50,757.** CD 4/27—ENR 5/5.

New York—TUNNEL and PLAZA PAVING—Triborough Bridge & Tunnel Auth., 10 State St., New York, Zone 4, May 19, tunnel and plaza paving Brooklyn Battery Tunnel, Contr. BBT-23 from John Meehan & Sons, 90 West St., New York Zone 6, **$332,300.** CD 5/2—ENR 5/12.

†Oregon — TRANSMISSION LINE — Bonneville Power Admin., 729 N. E. Oregon St., Portland, Zone 8, May 17, clearing right-of-way for County Line-Reedsport sect. of Mapleton-Reedsport, 115 kv transmission line, 13.4 mi. Douglas Co., Inv. 4595, from R. W. Byers, Redding, Calif., **$254,000.** CD 5/4—ENR 5/5.

†South Dakota and Nebraska—TRANSMISSION LINES—Bureau Reclamation, Dpt. Interior, Casper, Wyo., May 10, 45 mi. Fort Randall-O'Neill 115 kv transmission line, Schedule 1, aluminum, Missouri River Basin Proj. Transmission Lines Unit, Spec. 2618, from Elliott Constr. Co., 527 Sunderland Bldg., Omaha, Neb., **$333,428.** CD 4/26.

†Washington — SUBSTATION — Bonneville Power Admin., 729 N. E. Oregon St., Portland 8, Ore., May 4, Port Angeles substation, Clallam Co., Inv. 4575, from Electric Co., Port Angeles, **$64,276.** CD 4/21.

†Washington—TRANSFORMERS—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., May 17, Schedule (1) one 11,200/14,000 kva., two 10,000 kva. and 9,600/12,000 kva. transformers with three 115,000 volt and three 34,500 volt lightning arresters, Yakima Proj., Spec. 2619, from General Electric Co., 650 17 St., Denver, Colo., **$64,107.** CD 5/2—ENR 5/5.

CONTRACTS AWARDED

Ala., Sylacauga—SWIMMING POOL—City, swimming pool, to Miles Motes, Sylacauga, **$71,401.** Bids 5/16.

†Arizona and Nevada—AUTO TRANSFORMERS, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., Schedules 2 and 4 circuit breakers and lightning arresters for Coolidge substation, Davis Dam Proj., Spec. 2573, to General Electric Co., 650 17 St., Denver, Colo., **$103,388.** Bids 3/29, awarded 5/10. CD 4/5—ENR 4/14, under L/I.

†Arizona and Nevada—CIRCUIT BREAKERS, etc.—Bureau Reclamation, Dpt. Interior, Bldg., 1-A, Denver Federal Center, Denver, Colo., Schedules 2 and 4 circuit breakers and lightning arresters for Coolidge substation, Davis Dam Proj., Spec. 2573, to General Electric Co., 650 17 St., Denver, Colo., **$103,388.** Bids 3/29, awarded 5/10. CD 4/5—ENR 4/14, under L/I.

Arizona—RURAL DISTRIBUTION LINES—Duncan Valley Electric Co-operative, Inc., Duncan, 88 mi. rural distr. lines, Greenlee Co., to Reynolds Electrical & Engineering Co., Box 3079, El Paso, Tex., **$133,950.** Tynes & Loftin, 512 Heard Bldg., Phoenix, Ariz., engrs. CD 1/14—ENR 2/3.

Arkansas—RURAL DISTRIBUTION LINES—Ouachita Rural Electric Corp., Camden, 211.52 mi. rural distr. lines, Ouachita Co., to M. S. Carroll Constr. Co., P. O. Box 428, Ruston, La., **$259,913.** Pepper & Mathews, Box 712, Yazoo City, Miss., engrs. CD 3/4—ENR 3/10.

●Calif., San Diego—PIPELINE—San Diego Electric & Gas Co., 861 6 Ave., 35 mi. 16 in. welded steel pipe from Moreno in Riverside Co. to County Line, to J. E. Young Pipeline Constr. Co., 931 E. Pomegranate St., Los Angeles. Approx. **$2,000,000;** 51 mi. 16 in. welded steel pipe from county line to Mission Valley, to Utility Constr. Co., 8836 Atlantic Ave., South Gate. Approx. **$2,500,000.** CD 2/16—ENR 3/3.

Florida—RURAL DISTRIBUTION LINES—Clay Electric Co-operative, Inc., Keystone Heights, Fla., 30 mi. of 33 kv. rural distr. lines, Clay Co., to Lem T. Barber, Moultrie, Ga., **$170,349.** E. P. McLean Eng. Co., Moultrie, Ga., engr.

Fla., Jacksonville—DOCK IMPRVS.—Pan Atlantic Steamship Lines, Municipal Docks, resurf. open dock space, bldg. steel, concrete runways, extend. impry. railway sidings for serving warehouses, all at warehouse location at municipal docks. Owner builds. Approx. **$75,000.**

†Idaho—TRANSMISSION LINES—Bureau Reclamation, Dpt. Interior, Idaho Falls, 48 mi. 115 kv and 3.5 mi. 44 kv transmission lines, Goshen to Palisades, Palisades Proj., Spec. RI-40 (Region 1), to Askevold Constr. Co., Inc., and Darnell Constr. Co., Missoula, Mont., **$585,516.** Bids 4/26, Awarded 5/13.

Iowa — RURAL DISTRIBUTION LINES — Guthrie County Rural Electric Co-operative Assn., Guthrie Center, rural distr. lines, incl. 50.86 mi. single phase primary, 0.5 mi. V phase primary, 2.2 mi. three phase primary, 7.3 mi. single phase to V phase conversion, 6.3 mi. single phase to three phase conversion 1.2 mi. single phase reconducting, 3.94 mi. weatherproof service, 2 substations, Proj. Iowa 21 H & K, Guthrie, Adair, Audubon, Cass and Guthrie Counties, to Hoak Constr. Co., 21 63 St., Des Moines, Approx. **$100,000.** CD 2/9—ENR 2/17.

Kan., Topeka—MOTOR COURT—E. W. Shoemaker, c/o contractor, motor court, to David Keller, 3701 W. 21 St., Approx. **$90,000.**

Ky., Lexington — ARENA — Clay-Gentry Stockyards Co., c/o contractor, livestock arena, to Hargett Constr. Co., 113 Walton Ave., **$79,950.**

Kentucky—RURAL DISTRIBUTION LINES—Farmers Rural Electric Co-operative Corp., Glasgow, 106 mi. rural distr. lines, Barren Co., to J. W. Layne, 212½ Union St., Nashville, Tenn., **$122,905.** Blue Grass Eng., Inc., 432 W. Short St., Lexington, engr. CD 2/27/48—ENR 3/18/48.

Kentucky—RURAL DISTRIBUTION LINES—Warren Rural Electric Co-operative, Corp., Bowling Green, 210 mi. rural distr. lines, Warren Co., to Mid States Contractors, Inc., Rt. 21, New Albany, **$264,548.** Chenaberry Eng. Co., Inc., 1510 Washington Bldg., Louisville, engr. Bids 4/1. CD 2/28—ENR 3/10.

Mich., Detroit—BANDSHELL—Detroit Dpt. Parks & Recreation City Hall, Belle Isle Bandshell, Contr. PR 48, to William Esslinger Constr. Co., 159 E. Columbia St., **$149,002.** Bids 5/3, awarded 5/17. CD 4/26.

Minnesota—RURAL DISTRIBUTION LINES—P. K. M. Electric Co-operative, Warren, labor and material 748 mi. rural distr. lines, Polk, Kittson and Marshall Counties, to Delta Constr. Co., Clarksdale, Miss., **$873,229.** Bids 3/29. CD 4/13—ENR 4/21.

Missouri—RURAL DISTRIBUTION LINES—West Central Electric Co-operative, Inc., Samuel R. Greer, mgr., 1902 Main St., Higginsville, labor only **$64.73** mi. single phase rural distr. lines, 40 mi. conversion lines, one 1,500 kw substation, Lafayette, Jackson, Johnson, Pettis and Cass Counties, to James H. Drew Constr. Co., Architects & Builders Bldg., Indianapolis, Ind., **$152,639.** Bids 5/3. CD 4/26.

Nebraska—RURAL DISTRIBUTION LINES—Cornhusker Rural Public Power Dist., Columbus, 193.5 mi. rural distr. lines, Madison and Boone Counties, to Jacobs & Doyle, Edgewood, Ia., **$208,928.** Bids 5/9. CD 4/15.

Nebraska—RURAL DISTRIBUTION LINES—Niobrara Electric Membership Assoc., Hay Springs, 212 mi. rural distr. lines, Sheridan Co., to R. N. Campsey, 2520 Leyden St., Denver, Colo., **$251,411.** Walter Walkling, 2640 Kearney St., Denver, Colo., engr.

N. Y., Great Neck Estates — SWIMMING POOL, etc.—Bd. Trustees, Village of Great Neck Estates, 160 Middle Neck Rd., Great Neck, 50x100 ft. swimming pool and bathhouse, to Connolly Bros. Inc., Beverly Farms, Mass., **$127,127.** Bids 3/21. CD 3/3—ENR 3/10.

N. D., Minot—DRIVE-IN THEATER—Triangle Theatre Corp., Minneapolis, Minn., drive-in theatre, to Gay Drangstad, 819 2 Ave. N. W., **$75,000.**

Oklahoma — RURAL DISTRIBUTION LINES—Kiamichi Electric Co-operative, Inc., Wilburton, 187 mi. rural distr. lines, Latimer Co., to C. & W. Constr. Co., Ada, Madison **$67,887,** materials **$187,000,** total **$254,887.** George C. Henry & Co., 1007¼ Texas Ave., Shreveport, La., engrs. CD 11/11—ENR 11/25.

Oregon—RURAL DISTRIBUTION LINES—Wasco Electric Co-operative, 316 E. 3 St., The Dalles, Ore., 108 mi. rural distr. lines, Wasco, Jefferson and Wheeler Counties, to Washington Electric Co., 5235 S. Tacoma Way, Tacoma, Wash., **$73,932.** Bids 3/28 rejected. L. B. $82,277. CD 4/11—ENR 4/21, under LB.

Tex., Fairfurrias—GAS GATHERING LINES—United Carbon Co., Odessa, gas gathering lines, own forces. Approx **$175,000.** CD 3/30—ENR 4/7, under Industrial Buildings.

Tex., San Antonio—STREET LIGHTING—City Public Service Bd., 201 N. St. Marys St., street lighting sys., unit, force account. **$90,000.** CD 11/11/48—ENR 11/25/48.

Tex., Spearman—GAS PIPELINE—Phillips Petroleum Co., Bartlesville, Okla., gas pipeline gathering sys., own forces. Approx. **$300,000.** CD 2/11/48—ENR 3/4/48.

Alta., St. Paul—OIL DEVELOPMENT—Woodley Petroleum Co., Second National Bank Bldg., Houston, Tex., U. S. A. oil development, Angle Lake area, near here, to Western Pacific Exploration Co. Ltd., Elk Point. Approx. **$150,000.**

B. C., Sechelt—WHARF—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., wharf repairs, imprvs., to James McDonald Constr. Co. Ltd., 625 Fort St., Victoria. Approx. **$64,457.** Bids 4/6. CD 3/23—ENR 3/31.

Ont., Toronto—GOLF COURSE—Wasaga Golf & Country Club, Wasaga Beach, golf course, club house, swimming pool, tennis courts, day labor, **$70,000.**

CONSTRUCTION REPORTS - Second Section

Third Section Construction Reports on page 72

WATER SUPPLY

BIDS ASKED

June 13

Calif., Buena Vista Park — Bd. Supervs. Kern Co., Courthouse, Bakersfield, installing approx. 2 mi. water pipe, approx. $28,000. J. R. Thornton, co. engr.

Miss., Kosciusko—City, B. Clegg, clk., City Hall, water well.

June 14

♦Ind., Cannelton—U. S. Eng., 830 West Broadway, Louisville, Ky., pump. plants, incl. 3 concrete substructures, brick substructure, storage vault, 450 lin. ft. 12 and 16 in. discharge pipelines, 100 lin. ft. 12 and 15 in. sewers, 2 sluice gates, 3 flap gates, piping and valves, pump. equip., incl. 5 storm water pumps and 3 sewage pumps, transformer substations. Serial No. Eng., 15-059-49-143. Plans deposit $15.

Kan., Atchison — Atchison City Water Works, City Hall, water treatment plant alterations, addns., incl. filter bldg., pump. station, water reservoir, wash water receiving tank. Plans deposit $15. Black & Veatch, 4706 Broadway, Kansas City, Mo., engrs.

Miss., Brookville—Town, W. B. Tate, clk., Town Hall, deep water well, motor driven pump, equip. Plans deposit $10.

LOW BIDDERS

Calif., Long Beach—City, Bd. Water Comrs., 205 W. Broadway, May 10, 54 in. rein.-con. watermains, from Citizens Pump. Plant to Alamitos Reservoir, from Kemper Constr. Co., 3701 Overland Blvd., Los Angeles, **$414,320.** CD 4/21—ENR 5/5.

Tex., Dallas—City, Earl Goforth, secy., City Hall, Main and Harwood Sts., May 23, 30 in. watermain, portions of Central Blvd., from Cole Williams, Inc., Route 7, Box 427-A, **$55,019.** Est. $40,000. CD 5/10—ENR 5/12.

CONTRACTS AWARDED

●Calif., Los Angeles—Los Angeles Dpt. Water & Power, 207 S. Broadway, constr. Tunnels 1, 2, 3 and Surge Chambers 1, 2 and 3, to Guy F. Atkinson Co., 324 N. Micheltorena St., Los Angeles, Bressi & Bevanda Constructors, Inc., 417 S. Hill St., Los Angeles, David G. Gordon, 1900 31 St., Denver 5, Colo., and A. Teichert & Sons, 1846 37 St., Sacramento, **$8,947,520.** Bids 5/9, awarded 5/19. CD 5/11—ENR 5/19. under LB.

Ga., Buchanan—City, filtration plant addn., to Lloyd White and Lee Worth, Buchanan, **$41,000.** CD 3/8—ENR 3/10.

Ky., Perryville—City, City Hall, water distr. sys., to Henry Rickel Co., 1020 E. Chestnut St., Louisville, **$61,817.** Bids 5/17, awarded 5/20. CD 5/4—ENR 5/12.

Pa., Morrisville — Morrisville Boro. rain water intake extens., to C. & T. Constr. Co., $10 Haddon Ave., Collingswood, N. J., **$28,131.** Albright & Friel, 1528 Walnut St., Phila., engrs. CD 3/18/48—ENR 3/25/48, under LB.

Tex., Houston—Southcrest, Inc., Union Natl. Bank Bldg., Unit 2, c.i. waterlines, to Vernon Miller, 2015 Mc Clendon St., **$45,000.** CD 5/4—ENR 5/12.

Tex., Woodsboro—City, 200,000 gal. steel elevated water storage tank, to Chicago Bridge & Iron Co., 5625 Clinton Dr., Houston, **$32,000.** Bids 4/7. CD 3/28—ENR 3/31.

Wis., Sturgeon Bay—Utilities Comn., Sturgeon Bay, steel elevated tank for West Side to Chicago Bridge & Iron Co., 332 S. Michigan St., Chicago, Ill., **$39,350.** Bids 5/10. CD 4/26—ENR 4/28.

SEWERS, WASTE DISPOSAL

BIDS ASKED

June 8

Ont., Belleville—D. L. Storey, Mayor and Members of Council, Belleville, sanitary sewers, incl. 8- to 15- in. sewers, sewage pump. station. Approx. $60,000. Plans deposit $10. C. A. Mott, c/o owners, engr. CD 4/12/44—ENR 4/20/44.

June 9

Tex., San Antonio—City, City Hall, Northside Main sewer Proj., Sect. 1, Martinez Creek area, **$159,800.** Beavers & Dodal, 1422 Transit Tower, engrs. CD 12/15/47—ENR 12/25/47.

June 10

Mo., Fairfax—City, City Hall, sewerage sys., incl. Schedule I, 164 lin. ft. 8 and 10 c. i. pipe, 27,920 lin. ft. 6- to 10- in. vitr. clay pipe or concrete pipe, 300 wye branches, 88 standard manholes, 15 drop manholes, 6 special manholes, 10 cleanouts, ditch crossing piers, headwall, trenching, etc.; Schedule II, 5,000 lin. ft. 4 in. vitr. clay or concrete pipe, trenching and backfill, 400 lin. ft. oiled gravel replaced. Plans deposit $25. Riddle Eng. Co., 1324 Prospect Ave., St. Joseph, Zone 12, engr.

June 13

D. C., Wash.—Distr. Comrs., 509 District Bldg., 14 St. and Pennsylvania Ave. N. W., Zone 4. Emerson St. Storm Sewer, Sect. 2 and 8. Dakota Ave. Sanitary Sewer; adv. ENR 6/2.

Mass., Dudley—Town Bd. Selectmen, Town Hall, Schofield Ave., brick, concrete sewage disposal plant, incl. pump. facilities, pipeline and treatment facilities, $75,000. Haley & Ward, 73 Tremont St., Boston, engrs. CD 11/10—ENR 12/9.

June 14

Calif., San Diego—City, Civic Center Bldg., submarine pressure sewer Mission Beach to Ocean Beach, Approx. $50,000. Alden K. Fogg, city engr. CD 1/2/46—ENR 1/17/46.

Ia., Monroe—City, City Hall, storm drainage imprvs. Plans deposit $15. Barnard & Burk, Triad Bldg., Baton Rouge, engrs. CD 8/22/46—ENR 9/5/46.

June 28

Ind., Fort Wayne—Bd. Trustees, Irene Byron Hospital, Wm. E. Roussey, pres., Court House, A. L. Goeglein, secy., Fort Wayne, sewage treatment plant, at hospital, incl. 3 sewage ejectors, sump pump, Imhoff tank, sludge collector, etc., near here, $75,000. A. M. Strauss, 415 Calhoun-Wayne Bldg., Fort Wayne, archt. and engr.

LOW BIDDERS

●Ill., Chicago—City of Chicago, Dpt. Purchases, Contracts & Supplies, City Hall, May 9 auxiliary outlet sewers, Roscoe St., from John C. Tully, 33 N. LaSalle St., **$1,080,761. (Correction**—contractors addresss). CD 5/13—ENR 5/19, under LB.

Mass., Wakefield—Town of Wakefield Sewer & Water Bd., Town Hall, May 17, sewers, from Var Wood Co., 718 Huntington Ave., Boston, **$62,784.** Weston & Sampson, 14 Beacon St., Boston, archts. CD 5/24.

●N. J., Hackensack—Bergen Co., Hackensack River Sanitary Sewer Dist., Auth., Bergen Co. Administrative Bldg., May 6, Overpeck Valley Joint Sewage Works, Contr. 6, from Greenland & McCullough, 50 Mc Dermott Pl., Bergenfield, **$240,530*****Contrs. 12 and 17, from R. and J. Cinanciulli Inc., 957 Saw Mill River Parkway, New York, N. Y., **$58,069** and **$103,537** respectively***Contr. 8, from Elmhurs. Constr. Co., 53-09, 97 Pl., Corona, N. Y., **$889,271*****Contrs. 7 and 13, from Kuchar Bros., Franklin Ave, Montville, **$265,710** and **$46,000** respectively***Contrs. 9 and 10, from C. Salvatore & Sons and Joseph Miele, 90 Millburn Ave., Maplewood, **$834,714** and **$310,-025** respectively***Contr. 14, from C. L. Maltarska & Sons, 1711 Bergenline Ave., Union City, **$386,603*****Contr. 18, from F. Ragonese N. Fornaby, Fort Lee, **$419,996*****Contrs. 11 and 16, from Cestone Bros., 1403 Broad St., Bloomfield, **$338,202** and **$135,514** respectively. CD 4/7—ENR 4/29.

●N. J., Vineland—Landis Twp. Sewage Auth., Vineland, May 19, sewers, from A. J. Ellis Constr. Co., 4 and Courtland Sts., Phila., Pa., **$700,943**; treatment plant, from Acchione Contr. Co., 1607 McKean St., Phila., Pa., **$361,000.** CD 5/12.

O., Shaker Heights—City, 3400 Lee Rd., storm and sanitary sewers, Sherrington Rd., Lomond Blvd. West, west of Gridley Rd., east along Sherrington Rd. and Lomond Blvd., etc. and back fill, from Utilities Constr. Co., 643 Green Rd., Euclid, **$150,990**; earth back fill, from Dominic Nero Constr. Co., 12202 Superior Drive Ave., Cleveland, **$155,480.** CD 11/22—ENR 12/9.

Ore., Central Point—City, City Hall, rejected bids, May 16, sewage disposal plant, 1 lt. @ **$92,086.** CD 5/25—ENR 6/2.

Tex., Dallas—City, Earl Goforth, secy., City Hall, Main and Harwood Sts., May 31, sanitary sewers, Northwest Hy., Shadywood, Briarwood, Lilac and Farquahar Lanes, Horseshoe Trail and Stonegate Rd. from W. H. Nichols, 2015 Irma Ave., **$52,082.** Est $75,000. CD 5/16—ENR 5/19.

Wash., Union Gap—Town, Town Hall, rejected bids Jan. 18, sewage treatment plant, intercepting sewers, etc., L.B. **$151,336,** installing trunk sewer and laterals, L.B. **$154,887.** Project postponed until fall. CD 1/24—ENR 2/3, under LB.

CONTRACTS AWARDED

La., Bastrop—Town, Town Hall, sewage disposal plant, to Arkansas Constr. Co., Eldorado, Ark., **$88,736.** Bids 5/23. CD 4/21—ENR 5/12.

Md., Havre de Grace—Mayor & City Council, City Hall, 8,000 ft. 6- to 15- in. sewer lines, watermains, to Charles J. Spedman, 2901 Maisel St., Baltimore, **$77,998.** Bids 5/10. CD 4/29—ENR 5/5.

O., Bay Village—Village, Village Hall, 3 sanitary sewers, Osborn, Bassett and Bradley Rds., to Thomas Simich & Sons, 4009 W. 22 St., Cleveland, **$80,543.** D. O. Glendinning, village engr.

Tex., Houston—Southcrest, Inc., Union Natl. Bank Bldg., Unit 2, storm sewers, to Vernon Miller, 2015 McClendon St., **$55,000.** CD 5/4—ENR 5/19.

BRIDGES

BIDS ASKED

June 7

N. Y., Ossining—President and Trustees, Village of Ossining, at office P. T. Scrimia, village clk., strengthening, and repairs to East approach of span of Secor Rd. Bridge. Plans deposit $5.

June 9

Mass., Waltham—City of Waltham Purch. Agt. Office, City Hall, 4 span, 40x232 ft. rein.-con. bridge, 3 piers, Elm St., $135,000. Plans deposit $25. Thoman Worcester, Inc., 84 State St., Boston, archt. and engr. CD 6/16/44—ENR 6/29/44.

June 14

♦Wyoming—U. S. Forest Service, Post Office Bldg., Denver, Colo.,
Fremont Co.—Wind River Bridge, R. S. T. T. 327, Shoshone National Forest.

June 15

N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, east abutment approach ramps and superstructure for new south unit of new Unionport Bridge over Westchester Creek at Bruckner Blvd., Bronx Boro. Extended date. CD 5/19—ENR 5/26.

LOW BIDDERS

Connecticut—G. Albert Hill, state hy. comr., Hartford, May 23, twin 6x6 ft. rein.-con box culvert, 1,377 ft. long, Harbor-Front relocation of U. S. Rt. 1, New Haven, from C. L. Blakeslee & Sons, 58 Waverly St., New Haven, **$504,265.** CD 5/11—ENR 5/19.

N. Y., New York—Bd. Transportation, 250 Hudson St., Zone 13, May 20, viaduct structure connecting White Plains Rd. and Dyre Ave. Line, Proposal A, from John Roman, Inc., 189 Montague St., Brooklyn, Zone 2, **$313,015;** Proposal B, from Atlas Tile & Marble Works, Inc., 238 E. 26 St. **(A) $310,-745 (B) $324,745.** CD 5/5—ENR 5/12.

Texas—State Hy Comn., Austin, May 24, T. & N. O. Ry underpass and U. S. Hy. 290 interchange on Hy. U. S. 90 and 290, FO 1039 (4), Harris Co., from Gulf Bituthitic Co., P. O. Box 2096, Houston, **$523,803*****Belt Line Rd. railway overpass and approaches on U. S. 67, FI 826 (10), Dallas Co., from Austin Bridge Co., P. O. Box 1590, Dallas, **$67,282** ***Lake Fork Creek Bridges, approaches Hy. 182, S. 1178 (1), Wood Co., from W. S. Crawford Co., 5350 Montrose Dr., Dallas, **$102,300.** CD 5/4—ENR 5/12.

CONTRACTS AWARDED

●Ill., Cairo—Illinois Central R. R. Co., C. H. Mottier vice pres. and ch. engr., 109 E. Roosevelt Rd., Chicago, steel portion bridge, to Kansas City Bridge Co., 71 Ry Pass, Kansas City, Mo., **$1,250,000.** Awarded 5/13.

New York—Bureau Contracts & Accounts, Albany, bridge carrying local road over Seneca River, 3 mi. northwest of Village of Jordan, Onondaga and Cayuga Counties, to Edward Smith Enc. & Constr. Co., Syracuse, **$520,438.** Bids 3/30. CD 4/4—ENR 4/7, under LB.

Tex., Anahuac—Chambers Co., Courthouse, Anahuac, vehicle bridge, force account. **$90,-000.**

STREETS AND ROADS

BIDS ASKED

June 13

Ia., Clarion—City, City Hall, street imprvs., incl. c. conc. with base stabilization, resurf. streets, with double seal coats and single seal coat. Rowat & Murray, Belmond, engrs.

June 14

Tex., Griffing Park (Port Arthur P. O.)—Griffing Park, via Port Arthur, P. O., street paving, asph. type, 129,679 sq. yd. flexible base, 100,975 lin. ft. concrete curb and gutters, $171,000. Charles P. Smith, Harris Bldg., Port Arthur, engr. CD 5/18—ENR 5/26, under LB.

June 21

Pa., Philia.—Pub. Wks., City Hall Annex, grading, paving, repaving, etc., various locations. Approx. $160,000. Dudley T. Corning, highway chief.

June 22

♦Calif., Los Angeles—U. S. Eng., 751 S. Figueroa St., street paving at bridges in connection with Tujunga Wash. imprv. Approx. $50,000.

LOW BIDDERS

Colorado—State Hy. Dpt., 518 State Office Bldg., Denver, May 20, grading, surf., structures 0.84 mi. State Hy. 6, inside city limits of Canon City near Colo. State Penitentiary, Colo. Proj F-001 (3), from E. J. Rippy & Sons, New Castle, **$65,157.** CD 5/11.

Connecticut—State, G. Albert Hill, hy. comr., Hartford, May 23, grading, drainage 900 lin. ft. North Meadows Expressway, rein.-con. rigid frame double track railroad tunnel, 360 ft. Morgan St., four lane temporary approach road 672 ft., Hartford, from Gaetmino Constr. Co., 528 Valley St., Providence, R. I., **$644,689; $637,292; $626,892; $619,502** alternate bids. CD 5/11—ENR 5/19.

N. Y., New York — President Manhattan Boro, Municipal Bldg., Zone 7, May 24, grading, curbs, paving, asph. paving and repaving Avenue D from E. 6 to E. 13 Sts., E. 10 St. from Avenue D to Franklin D. Roosevelt Dr.; Franklin D. Roosevelt Dr., from E. 6 to E. 10 Sts.; curbing along West curb line of Franklin D. Roosevelt Dr. from E. 10 to E. 13 Sts., etc., for Jacob Riis Houses, Contr. 450, from John Meehan & Sons, 90 West St., Zone 6, **$113,416.** CD 5/16—ENR 5/19.

♦South Dakota — Pub. Roads Admin., New Customhouse, Denver, Colo., May 19, construct 7.923 mi. Forest Road, South Dakota Forest Proj 1-HF, 1-S, Pennington Co., from Northwest Eng. Co., Rapid City, **$138,115.** CD 5/11.

●Texas — State Hy. Comn., Austin, May 24, flexible base, b. conc., S.158 mi. Hy. **200, F** 1051 (7), Lavaca Co., from Heldenfels Bros., Rockport, **$181,515*****flexible base, double asph. surf. tr. 13.202 mi. Hy. FM 1056 and 1057, S. 1261 (1) and S 1262 (1), Castro Co., from Kerr & Middleton, 2206 N. 3 St., Lubbock, **$81,612*****flexible base, b. conc. 2.289 mi.

Hy. U. S. 83, Taylor Co., from Harry Campbell, 2854 Berry St., Fort Worth, **$196,489*****flexible base, hot mix, b. conc. 8.101 mi. U. S. Hy. 69 and 96, F. 354 (6), Hardin Co., from The Brown Co., Inc., P. O. Box 2426, Houston, **$364,169*****flexible base, asph. surf. 16.204 mi. Hy. FM 697, S. 1080 (2), Grayson Co., from Austin Road Co., P. O. Box 1590, Dallas, **$179,509*****flexible base, double asph. surf. tr. 18.174 mi. Hy. FM 759 and 279, V. 308-4-1, Hansford and Hutchinson Counties, and flexible base, double asph. surf. tr. 12.814 mi. Hy. 273, Lipscomb Co., from Bell, Braden, Barker & Gilvin, Inc., Herring Hotel Bldg., Amarillo, **$141,500** and **$231,757** respectively*****grading, structures, select material 6.172 mi. Hy. 155, F. 652 (11) and (12), Henderson and Anderson Counties, and roadbed tr. and base preservative 9.623 mi. Hy. FM 812 and 620, S. 1189 (1) and S. 222 (2) and (3), Travis and Williamson Counties, from J. R. Canion Constr. Co. and Rex D. Kitchens Constr. Co., P. O. Box 756, Austin, **$118,829** and **$77,697** respectively.

flexible base, single asph. surf. tr. 2.679 mi. Hy. FM 228, S. 1227 (2) and S. 1227 (3), Anderson and Houston Counties, from Mengee Bros., P. O. Box 431, Center, **$68,502*****single asph. surf. tr. 45.326 mi. Hy. 19, 289, 78, and U. S. 287 and Loop 12, C. S. 1-5-15, etc., Denton, Collins, Ellis and Dallas Counties, from D. & H. Constr. Co., P. O. Box 7053, Dallas, **$60,511*****flexible base, prime and single asph. surf. tr. 3.559 mi. Hy. FM 565, S. 1128 (1), Chambers Co., from E. W. Hable & Sons, Corsicana, **$143,934*****grading, structures, paving 1.489 mi. U. S. Hy. 87 spur in San Antonio, U. 1083 (7), Bexar Co., from Killian-House Co., Box 1981, San Antonio, **$219,774*****flexible base, b. conc. 6.188 mi. Hy. FM 717 C. 714-3 and 4-1 and 1, Stephens and Eastland Counties, from A. L. Bucy, Brownwood, **$72,865*****flexible base, double asph. surf. tr. 3.082 mi. Hy. 7 C. 553-3-1, Nacogdoches Co., from A. D. Muckleroy & T. R. Vardeman, Sr., Nacogdoches, **$59,092*****flexible base, seal coat 12.883 mi. Hy. FM 554 and 555, S. 1005 (1) and S. 911 (1), Upshur Co., from H. L. Butler & Son, Box 7115, Dallas, **$124,901*****seal coat 37.317 mi. U. S. Hy. 62 and 80, C. 2-7-7, Hudspeth, Culberson and El Paso Counties from C. Hunter Strain, P. O. Box 1057, San Angelo, **$91,261*****wid'n., grading, structures, flexible base shoulders 16.698 mi. U. S. Hy. 90, F. 852 (3), Guadalupe Co., from Holland Page, P. O. Box 1181, Austin, **$289,010**. CD 5/4—ENR 5/12.

Virginia — State Hy. Dpt., Richmond, rejected bids May 17, stabil. base, surf. tr. 3.95 mi. Secondary Route 606 near Herndon, Fairfax Co. L.B. **$81,683**. CD 5/23—ENR 5/26, under LB .

CONTRACTS AWARDED

New York—Bureau Contracts & Accounts, Albany, reconstructing 2.96 mi. Route 13 between Route 31 and Sylvan Beach, Madison and Oneida Counties, to Stento Constr. Co., 60 Exchange St., Binghamton, **$550,026**. Bids 3/30. CD 4/4—ENR 4/7, under LB.

North Carolina — State Hy. & P. Wks. Comm., Raleigh, c. conc. 6.5 mi. U. S. 74 from 7 St. approx. 100 ft. west of intersections with Park Terrace in Charlotte, east along or near streets and avenues across S.A.L. R. R. toward Monroe and connection with N. C. Route 27, Proj. 6558, Mecklenburg Co., to Rea Constr. Co., Box 2015, Charlotte, **$793,294**. CD 5/26—ENR 5/26, under LB.

O., Cleveland—Cuyahoga Co., Courthouse Bldg., grading, draining, paving Chagrin River Rd. from Berkshire Rd. to Fairmount Blvd., Huntington Valley and Gates Mills, to Highway Constr. Co., Midland Bank Bldg., **$339,000**. Est. $378,000. Bids 5/12. CD 4/29—ENR 5/5.

Tex., Anahuac—Chambers Co. Courthouse, road construction, grading, drainage, surf., force account. **$125,000**. CD 6/23/44—ENR 7/13/44.

Tex., Wharton — Wharton Co. Courthouse, road improv. repairing, reconditioning, Precinct 3, **$80,000**; Precinct 4, **$75,000**, force account. McCormick & Teller, 2711 Grant St., Houston, engrs. B. D. King, co. engr. CD 11/8—ENR 11/24.

Wash., Seattle — City, County-City Bldg., paving 10 Ave. W. to Superior Constr. Co., 4610 37 Ave. S. W., **$55,883**. Est. $52,514. Bids 5/18. R. W. Finke, city engr.

Wisconsin — State Hy. Comm., Madison, bit. 8.3 mi. U. S. Hy. 41, Contr. 1, State Lines-S.T.H. 're (East and West Roadways) Rd., Proj. F. 021-(10) and F. 02-1 (11) Kenosha Co., to The White Constr. Co., 2343 W. Greves St., Milwaukee, Zone 3, **$801,774**. CD 5/23—ENR 5/26, under LB.

Nova Scotia—Province of Nova Scotia, Halifax, subgrade 10 mi Whitehaven Rd., Canso, to Dunn Constr. Co. Ltd., P. O. Box 39, Halifax, **$94,000**. Bids 11/4. CD 10-28; subgrade 9.3 mi. West Mabou Harbor, Port Hood, to Breton Constr. Co., Sydney, **$60,000**. Bids 11/3. CD 10/28.

Nova Scotia—Province of Nova Scotia, Halifax, subgrade 10.8 mi. New Germany to Lake Pleasant Village, to Municipal Specialties & Contg. Co. Ltd., 1350 Barrington, Halifax, **$90,000**. CD 11/8.43—ENR 11-11-43.

Ont., Sutton—Municipality, road construction to Miller Paving Ltd., 56 Blake St. Toronto, **$123,285**.

Saskatchewan—Province of Saskatchewan, Regina, hy. construction, Southey-Qu'Appelle River, to Alex Wilson, Tisdale, **$56,200**; Ca-

Patch ROADS THE LOW COST WAY

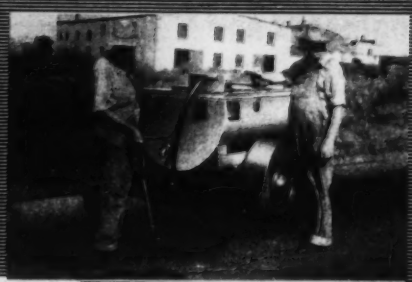
Temperature Easily Controlled

•

Easy to Transport

•

Saves Money on Patchwork



STANDARD STEEL TAR-KETTLES

PATCH AND MOVE ON IN MINUTES AND SECONDS

With this Standard Steel Model "S" Kettle, "cold spots" or "burnt materials" are eliminated. You get uniformity of heat throughout the entire mass of material. Steady temperature at the correct level is maintained all day long. Easily transported — equipped with special safety features — it's a fast worker. With a motor spray attachment, it is even more efficient for road maintenance. Standard Steel also offers a complete line of crack filling pots, shoulder rollers and other road maintenance equipment.

WRITE FOR CATALOG AND PRICES

OTHER PRODUCTS OF STANDARD STEEL

Asphalt Pressure Distributors, Maintenance Distributors, Patch Rollers, Supply Tanks, Tool Heaters, Asphalt Tools, Street Flushers, Construction Brooms.

Built to the Highest Standard

Standard Steel Works NORTH KANSAS CITY, MO

"Gunite" ..... the sand-cement product of the "CEMENT GUN," for Concrete and Masonry Repairs, Pre-Stressed Tanks, Steel Encasement and for lining Reservoirs, Sewers and Tunnels.

CEMENT GUN COMPANY

"GUNITE" CONTRACTORS

GENERAL OFFICES—ALLENTOWN, PENNA., U.S.A.

MANUFACTURERS OF THE "CEMENT GUN"

Free to

Engineers and Architects

Teco Timber Design Manual

Send this ad for your free copy, and the National Design specification published by National Lumber Manufacturers Association.

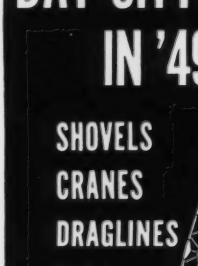
Let us help you with your timber design problems — we have 250 free typical designs. Prompt shipment Teco split rings, shear plates, toothed rings, grids, and Trip-L-Grip framing anchors. Distributors and fabricators in principal cities.

TIMBER ENGINEERING COMPANY
WASHINGTON • CHICAGO • NEW ORLEANS

"See the

BAY CITY LINE IN '49"

SHOVELS
CRANES
DRAGLINES
HOES



READ THE FULL STORY ON PAGE 8 LAST ISSUE

BAY CITY

BAY CITY SHOVELS, INC., BAY CITY, MICH.

nora to Gorlitz, to N. W. Acorn, Fenton. $52,000. Bids 5/6.

EARTHWORK, WATERWAYS

BIDS ASKED

June 8

Ont., Oshawa—J. M. Somerville, secy., c/o Dpt. P. Wks., Hunter Bldg., Ottawa, dredging 183,500 cu. yd. sand and silt. Approx. $275,000. R. Blais, c/o owner, engr. CD 5/18.

Ont., Port Hope—J. M. Somerville, secy., c/o Dpt. P. Wks., Hunter Bldg., Ottawa, dredging 26,280 cu. yd. sand and silt. Approx. $45,900. R. Blais, c/o owner, engr.

June 10

†**Louisiana**—U. S. Eng., foot Prytania St., New Orleans, Zone 9, Bayou Lafourche Imprvt. Reach No. 2, Mile 3.42 to Mile 11.00, incl. snagging and clearing, channel excav. and realignment, Serial No. Eng. 16-047-49-316.

June 13

†**Ohio**—U. S. Eng., Madison Ave. and 8 St., Huntington 18, Va., gaging station, Delaware Reservoir Proj., Olentangy River, Serial No. Eng-46-022-49-149. CD 5/25—ENR 6/2.

June 15

†**California**—U. S. Eng., Wright Bldg., Sacramento, excav. for dam outlet, Isabella project on Kern River near Isabella, Spec. 1391. Plans deposit $25.

LOW BIDDERS

†**Louisiana** — U. S. Eng., foot Prytania St., New Orleans, Zone 9, May 18, approx. 54,000 cu. yd. semi-compacted levee and surf. roadway, crossing, ramps, Jefferson Parish, Serial No. Eng. 16-047-49-296, from E. A. Caldwell, Reymond Bldg., Baton Rouge, $77,272. CD 5/4—ENR 5/12.

†**Louisiana**—U. S. Eng., foot Prytania St., New Orleans, Zone 9, May 20, repair Inner West Jetty, South Pass, Serial No. Eng., 16-047-49-272, from C. W. Harris, 5928 Pontchartrain Blvd., New Orleans, $39,995. CD 4/25—ENR 5/12.

†**Washington**—U. S. Eng., Pittock Block, Portland, 5, Ore., levee imprv. in Wahkiakum Diking Imprvt. Dist. 4, along levee on south side of District 1 mi. southeast of Skamokawa, Wahkiakum Co., Eng-35-026-49-503, from General Constr Co., Box 3860, Portland, Ore., $70,625. Est. $60,955. CD 2/24—ENR 3/3, under LB.

CONTRACTS AWARDED

†**Arkansas**—U. S. Eng., P. O. Box 60 Vicksburg, Miss., clearing Narrows Reservoir, Pike Co., Serial No. Eng-22-052-49-145, Items 1 and 2, to Wester-Burnett Constr. Co., P. O. Box 111, Denison, Tex., $617,506. Bids 4/27, awarded 5/2. CD 5/19—ENR 5/26, under LB.

●†**Georgia and South Carolina** — U. S. Eng., Post Office Bldg., Savannah, Ga., clearing reservoir, Group 1, incl. Items, 1, 2, 3 and 4, to Robert Lee, Inc., Manning, S. C., $1,020,400. Bids 5/19. CD 4/21—ENR 5/12.

Kan., Great Bend—Barton Co., Great Bend, Cheyenne Bottoms Inlet Canal, Part I, grading, drainage, to Milton Reinhart & Son, Russell, $92,420; Part II, treated timber and piling bridge, Station 26 plus 00, Part III, steel bridge, timber piling, Station 67 plus 55.6, Part IV, culvert and drop structures, Station 120 plus 00 and Part V, treated timber bridge Station 171 plus 65.85, to T. F. Marbut, Emporia, $46,285. Bids 5/6. Wilson & Co., 223 N. Santa Fe St., Salina, engrs.

†**Louisiana**—U. S. Eng., foot Prytania St., New Orleans, Zone 9, approx. 400,000 cu. yd. semi-compacted earthwork, Item R 150.0-149.9-L, Aloha-Rigolette Levee, Grant Parish, Serial No. Eng. 16-047-49-284, to Modern Constr. Co., 1826 Pickett Ave., Baton Rouge, $66,960. Bids 5/19, awarded 5/12. CD 4/26—ENR 4/28.

●†**Missouri and Kansas**—U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., Levee Unit 446-R, along right bank of Missouri River, between Atchison and Doniphan Counties, Kan. and Buchanan Co. Mo., Serial No. Eng 23-028-49-149 to Joseph L. Pohl Co., Nevada, Mo., $1,060,665. Bids 5/5. CD 5/12—ENR 5/19, under LB.

Tex., Houston—Southerest, Inc., Union Natl. Bank Bldg., Unit 2, site development, grading, drainage, levelling, to Vernon Miller, 2015 McClendon St., $36,000. CD 5/4—ENR 5/12.

†**Virginia**—U. S. Eng., foot of Front St., Norfolk tainter gate operating machinery and controls, Buggs Island Dam, Roanoke River, Eng-44-110-49-141, to Northwest Marine Iron Works 2516 N. W. 29 St., Portland, Ore., $285,388.

AIRPORTS AND AIRBASES

BIDS ASKED

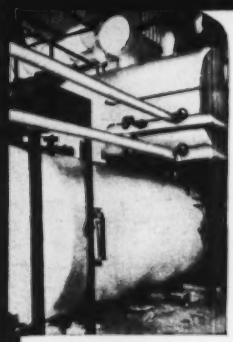
June 8

N. Y., Idlewild—PAVING—At office of Chief Engineer of Port of New York Auth., 111 Eighth Ave., New York, Zone 11, paving portion 134 St., at New York International Airport, Contr. NYA-91. Plans deposit $25. CD 4/27/44—ENR 5/18/44.

June 13

Conn., Windsor Locks—AIRPORT IMPRVS. —State, Raymond S. Thatcher, comptroller, 114 State Capitol, Hartford, airport imprvs. incl. high intensity lighting sys., Runway 6-24, sealing runways and taxiways, installing siding Bldg. 211, Bradley Field International Airport. Plans deposit $25. CD 6/4/48—ENR 6/17/48.

HERE'S YOUR COVER FINISH



No need to sew covers onto insulation. Cementing saves time, costs less. Arabol Lagging Adhesive — developed for war needs — now meets all requirements on installations of all sizes. Easily applied, dries quickly, requires no painting. Write for Bulletin #12.

THE ARABOL MANUFACTURING CO.
110 East 42nd St., New York 17, N. Y.
1835 S. 54th Ave., Chicago 50, Ill.
1950 16th St., San Francisco 3, Cal.

Adhesives?... **ARABOL!**

About June 15

Ind., Evansville—AIRPORT IMPRVS.—Bd. Aviation Comrs., Jerome Beeler, pres., Municipal Airport, Evansville, sanitary and storm sewers, concrete surf., parking lot, concrete entrance road, watermain exten., 250x450 ft. concrete loading ramp, $200,000. CD 12/22/44 —ENR 1/11/44.

About June 16

†**Miss., Biloxi**—HOUSING—U. S. Eng., 2301 Grant St., Mobile, Ala., family quarters, Keesler Air Force Base. CD 10/26—ENR 11/4.

June 16

†**Tex., San Antonio**—WATERLINES, etc.— U. S. Eng., Fort Sam Houston, waterlines, facilities, Lackland Air Force Base, near Kelly Field. $40,000. CD 5/12, under Water Supply.

†**Tex., San Antonio**—SEWERS—U. S. Eng., Fort Sam Houston, sanitary sewers, Lackland Air Force Base, near Kelly Field, $85,000. Bid date changed. CD 5/12, under Sewers, etc.

†**Tex., San Antonio**—HOUSING—U. S. Eng., Fort Sam Houston, 48 masonry or masonry veneer family housing units, concrete slab fdn., Lackland Air Force Base, $968,000. Bid date changed. CD 5/12.

†**Tex., San Antonio**—SITE GRADING, etc.— U. S. Eng., 606 Santa Fe Bldg., Galveston, site grading, drainage, Lackland Air Force Base, Eng-41-243-49-297. $30,000.

June 17

†**Tex., Fort Worth**—HOUSING, etc.—U. S. Eng., 606 Santa Fe Bldg., Galveston, 88 family housing units, necessary, stucco, concrete slab fdn. Approx. $650,000; sanitary sewers, $55,000; waterlines, $35,000; site grading, drainage, $100,000, at Carswell Air Force Base, Inv. No. Eng-41-243-49-298. CD 10/26—ENR 11/11.

June 20

Kan., Hutchinson — AIRPORT IMPRVS.— City, City Hall, terminal bldg., approaches at municipal airport, incl. ramps, runways, seeding, etc. $343,800. McCrackin & Hiatt, Hutchinson, archts. CD 3/24/48—ENR 4/1/48.

June 22

†**Tex., Austin**—SITE GRADING, etc.—U. S. Eng., 606 Santa Fe Bldg., Galveston, site grading, drainage, $30,000; sanitary sewers, $50,000, at Bergstrom Air Force Base, Inv. No. Eng-41-243-49-299.

July 5

†**Calif., Moffett Field (near Sunnyvale)**— SHOP, etc.—National Advisory Committee for Aeronautics, Ames Aeronautical Laboratory, corrugated asbestos, cement on structural steel frame, concrete floor, shop, complete heating, lighting, power and air sys., etc. Extended date. CD 5/9.

LOW BIDDERS

Ga., Augusta — AIRPORT IMPRVS. — City, May 19, grading, drainage, paving, Bush Field

Airport, from J. D. Manly Constr. Co., Leesburg, **$410,751.** CD 5/11.

La., Baton Rouge — ADMINISTRATION BLDG.—City, City Hall, May 19, 2 story airport administration bldg., Harding Field, Proj. FAAP 9-16-022-902, from Barksdale & LeBlanc, P. O. Box 1343, Baton Rouge, **$518,900.** CD 4/25—ENR 5/12.

Minn., Duluth—ADMINISTRATION BLDG. —State Aeronautics Dpt., Holman Field, St. Paul, administration bldg., Duluth Municipal Airport, from Kileen & Wille, Superior, Wis., **$113,106.**

†Tex., Fort Worth—RUNWAY—Carswell Air Force Base, c/o Lt. Marres, Officer in Charge Contracting Off., 37,000 cu. yd. limestone for runway repairs, from Ernest Loyd, 3104 Wayside St., **$73,260.**

CONTRACTS AWARDED

Fla., Miami—AIRPORT IMPRVS., etc.—Miami International Airport, International Airport imprvs. and extens. Owner builds, **$262,625.**

Pa., Selinsgrove—AIRPORT—F. D. Kessler, Northumberland, general contract Penn Valley Airport, to Susequehanna Paving Co., Sunbury, **$75,000.** Bids 5/15. CD 4/20—ENR 4/28.

†Wash., Walla Walla—APARTMENTS—U. S. Eng., 19 E. Poplar St., converting six B.O.Q. buildings into apartments at Air Base, to Markey & Moore Constr. Co., 9238 S.W. 17 St., Portland, Ore., **$256,440.** Bids 5/20. CW 4/27—ENR 5/5.

†Puerto Rico—WATER STORAGE, etc.—U. S. Eng., Box 5043, Ancon, Canal Zone, addnl. water storage and distr. sys., Ramsey Air Force Base, Eng-96-305-49-116, to Font & Montilla, Inc., P.O. Box 116, Hato Rey, **$44,917.** Bids 5/4. CD 4/27.

PUBLIC BUILDINGS

BIDS ASKED

June 6

†N. J., Fort Dix—U. S. War Dpt., Fort Dix, 2 mess halls addns., alterations, approx. $15,000; 15 ward diet kitchens at Tilton General Hospital addns., alterations, approx. $25,000. Col. T. F. Astrella, post engr.

June 7

Ill., Oak Forest—Comrs. Cook Co., County Bldg., Chicago, 6 story, brick, rein.-con. stone nurses home, Raymond E. Houligan, 30 N. Dearborn St., Chicago, archt.

Kan., Larned—City, City Hall, memorial hospital, **$588,663,** Extended date. Clayton & Murray, Abilene, archts. CD 10/28—ENR 11/11.

Md., Towson—Baltimore Co., Bd. Educ., Towson, 1 story 58x160 ft., brick, concrete, Rock River School, **$250,000.** Plans deposit $5 to Henry P. Hopkins, 10 E. Mulberry St., Baltimore, archt. CD 5/5—ENR 5/26.

O., Geneva—Hospital Bd., 24 bed hospital. Bids 5/20 rejected, L. B. **$488,254.** CD 3/29—ENR 4/14.

About June 9

†N. M., Albuquerque—U. S. Eng., P. O. Box 1538, Group III bldgs. and revisions, Sandia Base, Serial No. Eng-291-49-104.

June 9

Fla., Jacksonville—City, City Hall, furnishing, installing 69 kv transmission cables and duct lines and cables for 13 kv substransmission sys. for power Plant 2, in South Jacksonville. Plans deposit $20. Reynolds, Smith & Hills, 227 Park St., engrs. CD 2/12/47—ENR 3/6/47.

Minn., Bagley—Clearwater Co. Memorial Hospital Assn., E. Olson, secy., hospital, $250,000. Plans deposit $25. Long & Thorshov, 400 Metropolitan Life Bldg., Minneapolis, archts. CD 11/18—ENR 12/23.

June 10

Tenn., Memphis—City, City Hall, 1 and 2 story Kansas Street Negro School. J. Fraser Smith, Goodwyn Institute Bldg., archt. CD 6/1/43—ENR 6/3/43.

After June 10

†N. C., Charlotte—U. S. Eng., Post Office Bldg., Savannah, Ga., altering Bldg. 1, Charlotte Quartermaster Depot.

June 13

New York—Bd. Transportation, 250 Hudson St., New York, Zone 1, general construction, Castleton Avenue Bus Garage, Castleton and Jewett Aves.

June 14

Ark., Pocahontas—Randolph Co., Pocahantas, county hospital. Plans deposit $50. Bruce R. Anderson, Wallace Bldg., Little Rock, archt. CD 3/17—ENR 3/31.

Ind., Hammond—Bd. School Trustees, 5935 Hohman Ave., 2 story 69x109 ft. and 44x82 ft. brick rein.-con. steel school, 171 and Huron Sts., **$460,000.** Plans deposit $20. Warren S. Holmes, 2200 Olds Tower, Lansing, Mich., archt. CD 5/27—ENR 6/10.

†La., Guttenberg—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, 1, Minn., utility bldg., Lock and Dam 10, Serial No. Eng. 21-018-49-95. CD 5/16.

†Mich., Detroit—Veterans Admin., Munitions Bldg., Wash 25, D. C., regional office bldg. alterations (Krolik Bldg., 310 E. Jefferson Ave.), Spec. 4916.

†Minn., Minneapolis—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, Zone 1, garage type utility bldg., observation platform, Lock and Dam 1, Serial No. Eng. 21-018-49-95. CD 5/16.

†Minn., Minneiska—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, Zone 1, garage type utility bldg., Lock and Dam 3, Serial No. Eng. 21-028-49-95. CD 5/16.

†Minn., Red Wing—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, Zone 1, garage type utility bldg., Lock and Dam 3, near here, Serial No. Eng. 21-018-49-95. CD 5/16.

†Minn., Winona—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, Zone 1, garage type utility bldg., Lock and Dam 5A, near here, Serial No. Eng. 21-018-49-95. CD 5/16

Minn., Worthington — Worthington Community Hospital Assn., Dr. B. P. Mork, pres., and G. S. Thompson, city clk., hospital, $750,000, Magney, Tusler & Setter, 202 Foshay Tower, Minneapolis, archts. CD 4/28/47—ENR 5/15/47.

O., Chillicothe—Bd. Educ., Centralia Local School Dist., James R. Tootle, clk., R. R. 4, school and addn., near here. Plans deposit $5. De Voss & Donaldson, National Bank Bldg., Portsmouth, archts. CD 11/17/47—ENR 11/27/47.

June 15

†N. M., Albuquerque—U. S. Eng., P. O. Box 1538, Bldg. A-23 B and C, Sandia Base, Serial No. 291-49-95.

N. Y., Utica—Municipal Housing Auth., Washington Courts and Whitesboro St., general contract, heating, electrical work, plumbing for housing, for Post-War Proj. NYS-27, Site C located in South Utica, on Merriline, Hazelhurst and Hillcrest Aves. in Utica. Plans deposit $25. Kunne & Pennock, 7 Hopper St., archts. CD 5/9—ENR 5/19.

Okla., Lawton—Comanche Co., Lawton, Comanche County Memorial Hospital. $953,000. Paul Harris, Chickasha, archt CD 5/20/48—ENR 6/10/48.

June 16

●Ala., Decatur—City, high school. $1,000,000. Extended date. Raymond Sizemore, 16 S. Hull St., Montgomery, archt. CD 4/20—ENR 4/28.

June 17

O., Apple Creek—Dpt. P. Wks., George B. Sowers, dir., Ohio Dpts. Bldg., Columbus, power plant equip., repairs, and service units, (building alterations), Apple Creek State School, Wm. C. Kammerer & Assoc., 1300 Euclid Ave., Cleveland, engrs.

O., Lowellville—Bd. Educ., Fred Meehan, clk., High School Bldg., school. Plans deposit $25. Kling & Frost, 661 Wick Ave., Youngstown, archts.

O., Shaker Heights—Bd. Educ., Shaker Heights City School Dist., Lomond School addn. C. B. Rowley & Assoc., Inc., 2008 Keith Bldg., Cleveland, archt. CD 11/22—ENR 12/23.

S. C., Union—Union Hospital Dist., c/o Harold Woodward, archt., 247½ E. Main St., Spartanburg, hospital addn. Plans deposit $50. CD 8/9/46.

†Va., Quantico—Pub. Wks. Office, Marine Corps Schools, Quantico, converting Building 2207 into apartments at Naval Hospital, Spec. 22634. Plans deposit $20.

About June 20

†N. M., Albuquerque—U. S. Eng., P. O. Box 1538, construct building and altering existing bldgs. for Motor Pool (EOP-922), Serial No. Eng-29-005-49-92.

June 20

Ia., Denison—Bd. Trustees Municipal Electric Light and Power Plant, City Hall, imprv., exten. Municipal Electric Light and Power Plant, incl. item I, switchgear, lightning protection, control batteries, Item II, one 2000 kva, 3 phase 60 cycle Bus Tie Auto-Transformer, Primary 4,160 volts, secondary, 1,500 kva, at 2,300 volts, tertiary 500 kva, at 440 volts, 3 phase; Item III, generator. CD 6/24/48—ENR 7/8/48.

June 21

Del., Georgetown—Bldg. Comm. Sussex Co. Comprehensive High School for Negroes at office of Dr. George R. Miller, Jr., state supt. Dpt. of P. Instruction, Dover, high school for negroes. Plans deposit $10. Victorine & Samuel Homsey, 917 Gilpin Ave., Wilmington, archts. CD 10/15/47—ENR 10/30/47.

†Kan., Topeka—Veterans Admin., Vermont Ave. between H and I Sts. N.W., Wash. 25, D. C., detention fencing and lighting at hospital, Proj. 9-4159, Spec. 4913.

Mo., Kirkwood (St. Louis, Zone 22, P. O.)—Kirkwood School Dist., Bd. Educ., Floyd W. Hendricks, Supt., Schools, 762 S. Kirkwood Rd., (1st unit) 2 story, bsmnt., 44x183 ft., brick, concrete Oakland School, Sappington Rd. and Lockwood Ave. Bonsack & Pearce, Inc., 308 N. 6 St., St. Louis, archts. CD 2/21—ENR 3/17.

Mo., St. Louis—City of St. Louis, and Wohl Foundation, c/o Frank McDevit, pres. Bd. P. Service, 304 City Hall, 12 and Market Sts., two 2 story, bsmnt., stone, concrete public health centers, one at 13 and Wyoming Sts. and other at Kingshighway Blvd. and Aldine Pl. $900,000, Walter Crecelius, city engr. Jamieson & Spearl, 1696 Arcade Bldg., 812 Olive St., archts. CD 2/26/46—ENR 5/16/46.

O., Tallmadge—Bd Educ. Tallmadge School Dist., Henry H. Matz, clk., Tallmadge, school. Plans deposit $20. W. B. Huff, 1050 N. Main St., Akron, Zone 10, archt. CD 10/26/45.

Tex., Nacogdoches—City, doubling capacity municipal hospital, $300,000. Plans deposit $25. Hal B. Tucker, Nacogdoches, archt.

Va., Petersburg — At office L. H. Foster, ptes., Virginia State College, Petersburg Women's Dormitory 4 at Virginia State College for Virginia State College, Negro Institution, $500,000. Plans deposit $30. J. Binford Watford & O. Pendleton Wright, 103 E. Cary St., Richmond, archts. CD 10/11/44 — ENR 10/19/44.

†Va., Quantico—Pub. Wks. Office, Marine Corps Schools, Quantico, exten. FBI Academy, Spec. 21116. Plans deposit $20.

Ont., Chalk River—Purch. agt., c/o National Research Council, Sussex St., Ottawa, laboratory. Approx. $150,000. Plans deposit $25. G. Brault, c/o owner, archt.

About June 22

†N. M., Albuquerque—U. S. Eng., P. O. Box 1538, residences, Serial No. Eng-29-005-49-103.

June 22

†D. C., Wash.—Office of the Architect of the Capitol, Capitol Bldg., office for U. S. Senate, First St. between B and C Sts. NE. Plans deposit $90. CD 8/6/47—ENR 8/14/47, under Lib.

Tex., Houston—University of Houston, 705 Fannin St., library, $750,000. John Staub, 500 Stuart St., archt. Alfred C. Finn, Bankers Mortgage Bldg., co-ordinating archt. CD 2/4—ENR 1/13.

Wash., Tacoma — School Dist. 1, Central School, Wawcett School, $275,000. CD 3/17/48—ENR 4/1/48.

Bids Asked

N. J., Princeton—Princeton Twp., garage. Approx. $68,000, Clifford D. Quick, 24 Haslet Ave., archt.

LOW BIDDERS

†Alabama—Tennessee Valley Auth., New Sprankle Bldg., Knoxville, Tenn., canvassed bids to have been opened May 31, chemical plant gateway, Wilson Dam. CD 5/10—ENR 5/12.

Ala., Mobile—Mobile Co. Bd. Educ., May 19, Theodore School, from Bernard & Byrd, 1751 Conception St. Bd., Prichard, Mobile, **$274,383.**

†Ark., Little Rock—U. S. Eng., 300 Broadway, Little Rock, May 20, manager's residence, two duplex dwellings, nurses home and attendants quarters for Veterans Hospital, Serial No. Eng. 03,050.49,62, from Patti-McDonald-Manhattan Constr. Co., Muskogee, Okla., **$308,230.** CD 4/12—ENR 4/14.

Calif., Corona—Corona School Dist., Corona, May 18, Washington Elementary School and Washington and Homegardens Schools, from M. C. Eley & Sons, 6314 E. Whittier Blvd., Los Angeles, **$207,886** and **$260,460** respectively. CD 5/3.

Calif., Long Beach—City School Dist., 715 S. Locust Ave., May 13, 1 story, rein.-con. Jordan High School gymnasium, shower and locker bldgs., swimming pool, from Stanton-Reed Co., 816 W. 3 St., Los Angeles, **$579,347.**

Conn., Shelton—Town of Shelton, Housing Auth., E. T. Meehan, chan., Municipal Bldg., May 24, 47 family units, 39 single, 4 duplex houses, Sunnyside Park, from Berkshire Constr. Co., 281 Fairfield Ave., Bridgeport, **$270,000.** CD 5/3—ENR 5/12.

La., Bogalusa—School Bd., M. J. Israel, secy., May 19, Superior Ave., Terrace, and Northside Schools, from Southland Constr. Co., Bogalusa, **$384,800.** CD 4/19—ENR 4/21.

Mass., Melrose—City, Dpt. P. Wks., City Hall, May 13, school, Damon Ave., from White Constr. Co., 18 Tremont St., Boston, **$288,800.** CD 5/3—ENR 5/5.

Mass., Milford—Town of Milford Housing Auth., L. Jacques, chn., Milford, May 20, veterans' housing, from Woldon Constr. Co., Inc., 2 Elm Pl., Brookline, **$417,671.** CD 5/12.

Mo., Boonville — State of Missouri, State Office Bldg., Jefferson City, May 17, 1 story, 116x144 ft., brick, steel, rein.-con. educational bldg., from Brown-Hawkins, Finance Bldg., Kansas City, Mo., **$273,500.** CD 4/27—ENR 5/5.

†N. Y., Brooklyn—U. S. Eng., 120 Wall St., New York, Zone 5, May 17, family type living quarters, Fort Hamilton, from V. R. Constr. Co., 750 Second Ave., New York, Schedules (1), **$347,775;** (2), **$112,242.** CD 4/22—ENR 4/28.

●N. Y., New York—New York City Housing Auth., 63 Park Row, Zone 7, May 24, general contract Lexington Houses E. 98 St., 3 Ave., E. 99 St. and Park Ave., from Stein Constr. Co. & A. J. Constr. Co., 551 Fifth Ave., Zone 17, **$2,562,000***** plumbing, from Novak & Rehner, Inc., 623 Tenth Ave., Zone 19, **$328,879 ***** heating and ventilating, from The Mance Corp., 400 W. Broadway, Zone 12, **$749,980.** CD 5/9—ENR 5/19.

CONTRACTS AWARDED

Calif., Riverside—Bd. Educ., Riverside, 1 and 2 story, rein. con. 25,000 sq. ft. gymnasium at Central Junior High School, to Seciat Constr. Co., 1909 W. Whittier Blvd., Whittier, **$293,373.** Bids 5/2. G. S. Wilson, 3681 6 St. archt. CD 5/13—ENR 6/3.

Calif., Whittier—Whittier Union High School Dist., 816 W. Philadelphia St., reconstr. Whittier High School bldgs. to H. J. Farrington, 9107 S. Lakewood St., Riviera, **$381,000.** Bids 5/4. CD 4/25/46—ENR 7/4/46.

Ind., Indianapolis — Bd. Sanitary Comrs., City Hall, 1 story, 150x322 ft. brick, rein.-con., steel garage, S. Belmont St., to Thomas A. Berling & Sons, 108 E. Washington St., **$177,700.** Bids 5/10, awarded 5/23. CD 4/28—ENR 5/5.

●Md., Bethesda—U. S. Federal Wks. Agency, 1800 F St. N. W., Wash., D. C., utility bldg., National Institute of Health, to McCloskey

& Co., 1620 W. Thompson St., Phila., Pa., **$918,000.** Bids 4/29. CD 5/24—ENR 6/2.

N. J., Trenton—State Hy. Dpt., State House Annex, State Hy. Office Bldg., Ewing Twp., to Belli Co., 143 E. State St., **$858,000.** Bids 5/24. CD 5/26, under LB.

N. Y., Binghamton—Bd. Educ., City Hall, general contract Coolidge School, to Frank W. O'Connell, Inc., 329 Water St., Binghamton, **$450,151.** Bids 5/18. CD 5/2—ENR 5/5.

N. Y., Levittown—Bd. Educ., Union Free School Dist. 5, Levittown, schools in Gardners Ave. and Abbey Lane, to Joseph Ruvoglia & Sons, Inc., Biltmore Theatre Bldg., Harrison, **$750,021.** Bids 4/7.

O., Ashtabula—Ashtabula General Hospital Bd. Trustees, Lake Ave. and W. 4 St., general contract, 150 bed, brick T shaped hospital, 1 wing administration bldg., 1 wing service bldg., offices, operating rooms, etc., to John Gill & Sons Co., Buckley Bldg., Cleveland, **$927,550.** Bids 5/19. CD 5/11.

O., Rocky River—Bd. Educ., Detroit Rd., brick, stone high school, east wing 112x160 ft. and 81x124 ft.; south wing 120x180 ft., concrete block and poured concrete fdn., to R. S. Ursprung Co., 705 Hanna Bldg. Annex, Cleveland, **$712,491.** Bids 5/12. CD 5/20—ENR 5/26, under LB.

Tex., Edinburg—Edinsburg Independent School Dist., Edinsburg, masonry Travis School. Owner builds. **$600,000.**

Utah, Midvale—Jordan School Dist., Midvale, general contract school at Sandy, to Carl S. Fors Co., 1639 E. 56 South St., Salt Lake City, **$431,937.** Est. $400,000. Bids 5/19. CD 6/3—ENR 6/17.

Ont., Etobicoke—Etobicoke Twp., Islington, school, to Dell Constr. Co. Ltd., 7 Kipling Ave., Islington, Approx. **$250,000.** Shorer Moffat, 79 Queen St. E., Toronto, archt. CD 1/19—ENR 2/3.

COMMERCIAL BUILDINGS

BIDS ASKED

June 7

Neb., Omaha—Cathedral Parish, 46 and Burt Sts., Cathedral High School, $600,000. Leo A. Daly Co., Insurance Bldg., archt. CD 1/5—ENR 1/20.

June 14

Fla., Pensacola — Y.M.C.A., c/o Yonge & Hart, archts., Blount Bldg., Y.M.C.A. bldg. addn. $300,000. Plans deposit $50.

Tex., Houston—Jewish Community Center, 4701 Catoline St., Units 1 and 4 masonry community center, concrete slab fdn. $300,000. Extended date L. L. Gabert 1215 Bell St., archt. W. J. Wisham, 3101 Wichita St., assc. archt. Walter P. Moore, 4605 Montrose Blvd., structural engr. I. A. Naman, 1309 Anita St., mechanical engr. CD 5/19—ENR 5/26.

June 21

Tex., Dallas—Buckner Orphans Home, U.S. Hy. 80, 2 story 54x133 ft. dormitory, 2 story, 64x122 ft. school center, masonry, brick, concrete slab fdn. constr., $275,000. Broad & Nelson, 618 Reserve Loan Life Bldg., archts. Zunwalt & Vinther, Mercantile Bank Bldg., mechanical engrs.

June 24

●**Tex., Waco**—Providence Hospital (Daughters of Charity of St. Vincente DePaul) Waco, 5 story basmt., Waco, 169x155 ft., 110 bed concrete frame and fdn., hospital addn., 2 electric passenger and freight elevator, sprinkler, air-condi-toning, steam-heating sys., etc. $1,059,000. Maguolo & Quick, 1905 Delmar St., St. Louis, Mo., Harry L. Spicer, 1214 Amicable Bldg. and W. C. Avery, 1st Nat. Bank Bldg., archts. Zunwalt & Vinther, Mercantile Bank Bldg., Dallas, mechanical engrs. CD 2/10—ENR 3/3.

Bids Asked

Pa., Merion — Waldron Academy, Merion, school and gymnasium, $250,000. Thomas J. Earley, 1701 Walnut St., Phila., archt.

SOON LETS CONTRACT

Ill., Chicago—University of Chicago, 956 E. 58 St., soon lets contract 1 story, 100x100 ft. semi-con. cafeteria and kitchen bldg. Schmidt, Garden & Erikson 194 S. Michigan St., archts.

La., Lake Charles — Gabriel & Reames, archts., Roumain Bldg., soon lets contract steel, masonry theatre remodeling and exten., 225 Branch St., Strand Sub Dist. Theatre (W. L. Paternostra, Lake Charles. $350,000.

La., Lake Charles—W. L. Paternostra, Lake Charles, soon lets contract theatre, $350,000. Gabriel & Reames, Roumain Bldg., Lake Charles, archts. CD 2/11—ENR 2/24.

Mo., Jennings Station (St. Louis, Zone 21, P. O.)—Corpus Christi Catholic Parish, Rev. E. J. Blankemeier, pastor, 8443 Jennings Rd., St. Louis, Zone 21, soon lets contract 1 story, basmt., 58x215 ft. and 67x120 ft. L-shaped brick, concrete, steel, stone school, Switzer Ave., between Jennings Rd. and Octavia Ave. Raymond E. Maritz, Chemical Bldg., 721 Olive St., St. Louis, archt.

S. C., Columbia—Oliver & Dickson, archts., 1226 Pickens St., soon lets contract building, for Young Women's Christian Assoc., 1520 Assembly St.

Tex., San Antonio—Salvation Army, 4619 Broadway, soon lets contract concrete frame, hollow tile, maternity hospital, $250,000. Atlee B. & Robert M. Ayres, Transit Tower, archts. Matthews & Kenan, Transit Tower, structural engrs. Halsey & Royer, Transit tower, mechanical engrs. Bid date changed. CD 5/11—ENR 5/19.

LOW BIDDERS

Pa., Phila.—Sisters of our Lady of Charity of Good Shepherd, 5301 Chew Ave., St. Joseph's Hall, from E. H. Keefer & Son, 1321 Rodman St. Approx. **$250,000.** CD 5/12—ENR 5/19.

CONTRACTS AWARDED

Ala., Birmingham—Park Manor Apartments, Inc., c/o contractor, 30 apartment units, to G. A. Paul, 14 Bonita Dr. Approx. **$250,000.** Bids 4/12. CD 3/30—ENR 4/7.

Ala., Birmingham—South Park, Inc., c/o contractor, 74 housing units, to F. R. Daugette, 1500 Woodland Ave. S.W. Approx. **$250,000.**

Calif., Torrance — Seaside Ranchos, 5249 Sharyine Lane, 40 frame, stucco dwellings. Owner builds. **$280,000.** George Moran, 2301 Palos Verdes Dr. West, Palos Verdes, archt.

Fla., Jacksonville—Wanders Building Co., 2705 Southside Blvd., Zone 7, low cost housing incl. 48 separate family residences, Southside Estates near Atlantic Blvd., to Henderson & Gilmore, Inc., 2705 Southside Bldg., Zone 7. **$360,000.**

●**Fla., Miami Beach**—Sun And Sea Corp., c/o contractor, 252 room hotel, to Taylor Constr. Co., Route 1, P.O. Box 189, Miami. Approx. **$1,000,000.**

Fla., Opa Locka—Curtiss Park •Development Co., c/o contractor, 312 homes, to Ring Kossoff Constr. Corp., 12910 Washington Ave., Miami Beach. Approx. **$250,000.**

Ga., Atlanta—R. J. Martin, c/o John W. Cherry, archt., Candler Bldg., 50 homes. Owner builds. Approx. **$250,000.**

Ga., Atlanta — Rankin-Whitten Realty Co., Mortgage Guarantee Bldg., 51 homes, Second Avenue and McAffee Rd., to Martin, Cogar & Davenport, c/o owner. Approx. **$300,000.**

Mass., Salisbury—Larmar Corp., 321 Marn St., apartment development, separate contracts. **$250,000.** Colish & Etter, 117 S. 17 St., Phila., Pa., archt.

Mo., Webster Groves (St. Louis, Zone 19, P.O.)—Cassilly Constr. Co., 704 S. Berry Rd., Webster Groves, fifty 2 story, brick houses, concrete fdn., garages attached, Wrenwood Court and vicinity, own forces. Approx. **$500,000.**

N. J., Riverton—Cedar Lane Apartments, Inc., c/o Dante D'Anastasso, archt., 1815 Federal St., Camden, apartment development, separate contracts. **$320,000.**

●**N. J., Runnemede** — Finer Homes, Inc., Runnemede, residential development Evesham Rd., separate contracts. **$1,875,000.** W. D. Faint & Co., 1915 Browning Rd., Pennsauken, engrs.

N. C., Greensboro—John R. Taylor Co., Greensboro, 68 homes. Owner builds. **$500,000.**

N. C., Wilmington—Grace Methodist Church, c/o contractor, rebuilding church, to W. A. Simon, 303½ Marstellar St., Approx. **$250,000.** CD 5/7.

O., Parma—Della Building Co., 4669 Turney Rd., Garfield Heights, twenty-eight 1½ story basmt., frame, stucco residences, 3903 to 3215 Kenmare Rd., separate contracts. **$266,000.**

Pa., Danville—Geisinger Memorial Hospital, Danville, brick hospital addn., to Ralph H. Woelfel, Markle Bank Bldg., Hazleton. **$824,-450.** Bids 5/9. CD 5/24—ENR 5/26, under LB.

Pa., Doylestown—Our Lady of Mt. Carmel R. C. Church, E. State St., schools, to Warren B. Zorn, Pottstown. **$250,000.** CD 3/9—ENR 4/7.

Pa., Hatboro—Owner c/o Warren M. Cornell, 124 S. York Rd., apartment between railroad and Old York Rd., separate contracts. Approx. **$250,000.**

Pa., Phila.—Adams Constr. Co., 2453 Martha St., residential development, Merrick St., etc., separate contracts **$250,000.**

Pa., Phila.—Broad Constr. Co., Inc., 6333 N. Broad St., residential development, Erdrick St., separate contracts. **$250,000.**

Pa., Pottstown—L. Ernest Pickard, Pottstown, residential development, s. and State Sts., separate contracts. **$250,000.**

Pa., Wayne—Alex Alessi, Wayne Theatre Bldg., residential development, Devon Ave., etc., separate contracts. **$250,000.** Ralph H. Thomson, 844 Montgomery Ave., Narberth, archt.

Tex., Beaumont—S. Perry Brown, American Natl. Bank Bldg., low cost negro housing. Owner builds. **$350,000.** CD 5/26—ENR 5/19.

Tex., Georgetown—Southwestern University, Georgetown, Lois Craddock Perkins Chapel, to Georgetown Constr. Co., Georgetown, Approx. **$250,000.** Bids 5/12. CD 5/4—ENR 5/12.

Tex., Houston — Best Home Builders, Inc., J. E. Leicher & Assoc., 3255 Rosedale St., 100 dwellings, Old Spanish Trail and Holmes Rds near Mason Park. Owner builds. Approx. **$500,000.** CD 2/11—ENR 3/3.

Tex., Houston—King & Sheets Co., City Natl. Bank Bldg., 20 residences, Huron St. Owner builds. **$250,000.** CD 5/9.

Tex., Houston—C. R. & V. L. Morrison & Assocs., 12732 Market St. Rd., 40 dwellings, Greens Bayou area. Owner builds. **$250,000.** CD 5/20.

Tex., Houston—Reed & Yancey Constr. Co., 3802 Richmond Rd., housing, adjacent South Houston, Owner builds. Approx. **$750,000.** CD 1/6.

Tex., Houston—Sam T. Robb & Assoc., Stewart Bldg., housing, Chocolate Bayou area, own forces. **$375,000.** CD 1/24/47—ENR 2/6/47.

Tex., Houston—Miles Strickland, 2nd Natl. Bank Bldg., 46 brick, cedar shakes, frame dwellings, Richmond Plaza, Avenue D and Richmond Rd. Owner builds. **$550,000.**

Tex., San Antonio—Bushy-Deaton Co., 315 Morningside Dr., 30 dwellings. Owner builds. **$450,000.** CD 5/20.

Que., Hauterive—Roman Catholic Episcopal Corp., Rev. Msgr. N. A. Lavrie, Bishop, Saguenay, 1 story, 60x122 ft. rein. con., stone, brick bishops palace, to Georges Duke, 83 St. Germain St., Rimouski. Approx. **$275,000.** G. F. Caron, 142 St. John St., Quebec City, archt. CD 4/20.

INDUSTRIAL BUILDINGS

BIDS ASKED

June

O., Lakewood — SALES and SERVICE — Dever-Hallady Motors, Inc., 11634 Clifton Blvd., Zone 7, 1 and 2 story, 70x175 ft. brick sales and service bldg., Detroit Ave. between Bunts Rd. and Parkwood Ave. **$100,000.** Rolland R. Johns, 1432 Schofield Bldg., Cleveland, archt. CD 8/30—ENR 9/9.

June 7

Ga., Atlanta—SHOP, etc.—Black & Decker Mfg. Co., c/o Robert & Co., Assoc., archts., 96 Poplar St. N. W., shop and office.

Bids Asked

Pa., Upper Darby—GARAGE—Hywood Motors, Garrett and Kingston Rds., 1 story, 62x165 ft. brick, concrete garage and showroom. Approx. **$68,000.** George F. Francis, 8102 Arlington Rd., archt.

●**Tex., Corpus Christi**—GRAIN ELEVATOR—Louis E. Meckins & Assoc., 1101 N.E. 23 St., Fort Worth, 18 story 2½ m. bushel capacity grain elevator. $1,750,000. Fedeide Eng. Co., 53 W. Jackson St., Chicago, Ill., engr. CD 5/4—ENR 5/19.

SOON LETS CONTRACT

Ala., Birmingham — WAREHOUSE, etc. — Southern Dairies, c/o Miller, Martin & Lewis, archts., Title Guarantee Bldg., soon lets contract warehouse addn., and altering dairy plant

O., Cleveland—GARAGE and REPAIR SHOP —Canada Dry Gingerale Co., 100 E. 42 St., New York, N. Y., soon lets contract 1 story, brick, block, garage, repair shop and storage facilities, E. 41 St. and Payne Ave. $75,000. Walter M. Cary, 36 W. 40 St., New York, N. Y., archt.

Pa., Phila. — PACKING PLANT — Morris Fruchtbaum, engr., 328 Chestnut St., soon lets contract 2 story masonry packing plant addn. for Formost Kosher Sausage Co., 519 S. 4 St., Approx. $68,000.

LOW BIDDERS

Kan., Kansas City — WAREHOUSE, etc. — Scott-West Line Co., 2501 Fairfax Trafficway, 2 story, 180x300 ft. warehouse and office, from Inter State Constr. Co., 3621 Troost St., **$775,000.** Edward W. Tanner & Assoc. 310 Ward Parkway, archts.

Minn., Glencoe — WAREHOUSE, etc. — McLeod Electric Cooperative, Glencoe, May 17, warehouse and office, from Melvin Zum Hofe, Glencoe, **$129,185.** CD 5/4—ENR 5/12.

Tex., Austin—SALES and SERVICE—Capitol Chevrolet Co., 224 E. 5 St., masonry auto sales and service, display, parts, storage room, from John Brad Constr. Co., 1711 W. 2 St., **$63,000.** CD 5/11—ENR 5/19.

CONTRACTS AWARDED

Del., Millsboro—SALES and SERVICE—Burton Chevrolet Sales, Inc., Georgetown, 1 story, 80x120 ft., cinderblock, brick, auto sales and service bldg., to Andrew Murray, Georgetown, **$68,000.**

Fla., Kissimmee — PLANT — Kissimmee Valley Products, Inc., Kissimmee, canning plant for processing fruits, vegetable and food products. Owner builds. **$80,000.**

Ill., Chicago — PLANT — Enjay Constr. Co., 105 W. Madison St., 150x245 ft., steel, brick plant, 8240 S. Stewart St., own forces. **$179,-000.** L. P. Sumarkoff, 105 W. Madison St., archt.

Ill., Chicago—TERMINAL—New York, Chicago & St. Louis R. R. Co., H. F. Whitmore, ch. engr., Terminal Tower, Cleveland, O., 80x128 ft. engine terminal bldg., 2225 E. 109 St., to Hoffman Bros., 1422 Terminal Tower, Cleveland, O. **$275,000.** R. C. Trumbell, Cleveland, O., archt.

Ill., West Chicago—PLANT—Northwestern Chemical Co., 410 N. Michigan St., Chicago, 3 story, basmt., 125x200 ft. plant addn., to Ragner Benson, Inc., 4744 W. Rice St., Chicago, **$500,000.** Awarded 5/3. Victor L. Charn, 4744 W. Rice St., archt. CD 2/28—ENR 3/10.

Kan., Deerfield — PLANT — Deerfield Petroleum, Inc., Deerfield, plant, own forces, **$100,-000.** CD 2/24—ENR 3/4.

Mo., Robertson (St. Louis, Zone 21, P. O.)—SALES and SERVICE—General Motors Corp., Electro Motive Div., Argonaut Realty Div., 3m General Motors Research Bldg., Detroit, Mich., 2 story, 146x322 ft. brick, steel, concrete, steel service and repairs bldg., Brown Rd., east of Lindbergh Blvd., to Gamble Constr. Co., 804 Pine St., St. Louis, Zone 1, Bids 5/10. CD 5/10—ENR 5/19.

Mo., St. Louis — REPAIR SHOP — ReMac Transport Co., 1316 N. 14 St., St. Louis, Zone 8, 1 story, 110x27 ft., brick, concrete repair

shop, 1411 N. 14 St., to Murch-Jarvis Co., Inc., 718 Locust St., Approx. **$75,000.**

Mo., St. Louis — FACTORY — Corte Waxo Co., 1006 S. 4 St., 1 story, part bsmnt., 48x104 ft. brick, concrete factory and office 2745 Papin St., to E. E. Marx, 3615 Olive St., Zone 8. Frank L. Thompson, 104 W. Adams St., Kirkwood, St. Louis, Zone 22, archt.

●**Okla., Cushing** — PLANT — Deep Rock Oil Co., Atlas Bldg., Tulsa, 5,000 bbl. per day fluid catalytic cracking plant, to Jones & Laughlin Supply Co., 108 N. Trenton St., Tulsa. Approx. **$2,000,000.** Universal Oil Products, 310 S. Michigan Ave., Chicago, Ill., engrs.

Pa., Hatboro—FACTORY—V. LaRosa & Sons, Inc., 478 Kent Ave., Brooklyn, N. Y., 1 and 3 story, bsmnt., 140x170 ft. steel, rein.-con. plant, Turner Constr. Co., 1500 Walnut St., Phila., Approx. **$68,000.** CD 5/12—ENR 5/19.

Pa., Reading—MOTOR TRUCK BRANCH—International Harvester Co., N. 5 St. Highway, 1 story, 114x158 ft., brick motor truck sub branch, to C. H. Schlegel & Son, Inc., 115 N. 6 St., **$175,000.** CD 1/24—ENR 2/3.

S. C., Pageland — WAREHOUSE, etc. — Lynches River Electric Co-operative, Pageland, warehouse and office, to Southern Constr. Co., Reynolds St., Augusta, Ga., **$80,000.** Bids 5/31. CD 2/4—ENR 3/10.

Tenn., Nashville—SUB-STATION—Nashville Electric Service, 605 Church St., sub station, Johnston Ave. Owner builds. **$350,000.** CD 3/24/48—ENR 4/15/48.

Utah, Salt Lake City — PLANT — Chicago Bridge & Iron Co., First Security Bank Bldg., 2 story, 50x130 ft., brick bldg., to Olson Constr. Co., 1349 S. 2nd West St., Approx. **$125,000.**

Ont., Toronto — FACTORY — Dominion Corrugated Paper Co. Ltd., 142 Weston Rd., factory, day labor, Approx. **$100,000.** W. J. McBain, 2559 W. Bloor St., archt. CD 4/28.

UNCLASSIFIED

BIDS ASKED

June 8

Georgia — RURAL DISTRIBUTION LINES — Slash Pine Electric Membership Corp., Homerville, 190.3 mi. rural distr. lines, in Clinch, Echols, Ware and Lanier Counties. Plans deposit $25. E. P. McLean Eng. Co., 815 S. Main St., Moultrie, engr. CD 5/20—ENR.

†**Va., Norfolk** — SPRINKLER SYSTEMS — Pub. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, Zone 11, installing sprinkler systems at the Naval Air Station, Spec. 22472. Plans deposit $10.

June 13

Nebraska — RURAL DISTRIBUTION LINES — Eastern Nebraska Public Power Dist., R. C. Johnson, pres., Syracuse, 294 mi. rural distr. lines, Otoe, Nemaha, Johnson, Lancaster and Cass Counties. Henningson Eng. Co., 628 Standard Oil Bldg., Omaha, engr. CD 5/26, under LB.

June 14

●**Wyo., Laramie** — STADIUM, etc., — Wyoming University, Laramie, war memorial stadium and fieldhouse. $1,500,000. Porter & Bradfield, Cheyenne, archts., James T. Ranter & Assoc., Laramie, engrs. CD 2/28, 4/6—ENR 3/21/46.

About June 15

†**N. M., Albuquerque**—GAS SUPPLY LINE—U. S. Eng., P. O. Box 1538, gas supply line, Sandia Base, Serial No. 291-49-102.

June 15

†**Arizona and Nevada**—TRANSFORMERS, etc. — Bureau Reclamation, Dpt. Interior, Phoenix, transformers, lightning arresters, potential transformers, for substations at Wellton-Mohawk Pumping Plants 1, 2 and 3, Wellton and Mohawk, Spec. R3-PX-13, Davis Dam and Gila Dam Projs. L. N. McClellen, Bldg. 1-A, Denver Federal Center, Denver, Colo., ch. engr.

†**Oregon** — TRANSMISSION LINE — Bonneville Power Admin., 729 N.E. Oregon St., Portland, Zone 8, clearing 13.45 mi. right-of-way for Mapleton-Canary sect. of Mapleton-Reedsport 115 kv. transmission line, Lane Co. Plans deposit $5.

June 16

Kansas—RURAL DISTRIBUTION LINES—Jewett-Mitchell Co-operative, Belleville, labor only 565.89 mi. rural distr. lines, Jewell, Mitchell, Osborne, Smith, Rooks, Lincoln and Cloud Counties, $175,000. Raymond H. Reed & Co., Columbus, Neb., engrs. CD 3/1/48—ENR 3/9/48.

About June 17

†**N. M., Albuquerque**—RADIO RECEIVING and TRANSMITTING BLDGS.—U. S. Eng., P. O. Box 1538, radio receiving and transmitting bldgs. and special test standby electric facilities, Sandia Base, Serial No. Engs-291-49-105.

†**Tex., Fort Bliss (El Paso P. O.)**—UTILITIES, etc. U. S. Eng., P. O. Box 1538, Albuquerque, N. M., utilities and roads for family quarters, (Fort Bliss T-91.), Serial No. Engs-29-095-49-101. CD 5/13—ENR 5/19, under LB.

June 17

†**Arizona-Nevada**—TRANSMISSION LINE—Bureau Reclamation, Dpt. Interior, Aviola Bldg., Phoenix, Ariz., Tucson-Cochise 115-kilovolt transmission line, Spec. 2672. L. N. McClellan, Bldg. 1-A, Denver Federal Center, Denver, Colo., ch. engr.

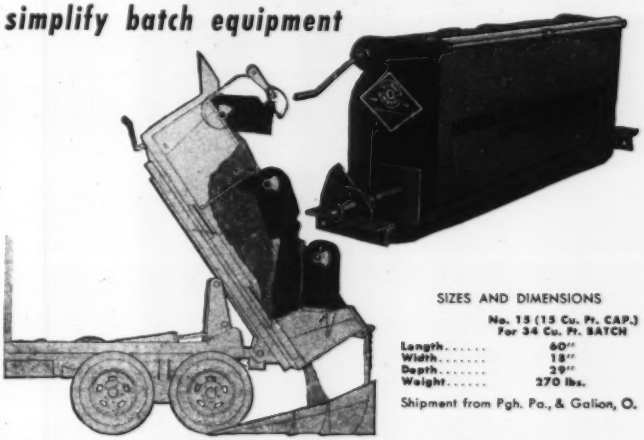
TURN-O-MATIC

CEMENT BOXES

speed bulk cement handling

assure delivery in perfect condition . . .

simplify batch equipment



SIZES AND DIMENSIONS

	No. 15 (15 Cu. Ft. CAP.) For 34 Cu. Ft. BATCH
Length	60"
Width	18"
Depth	29"
Weight	270 lbs.

Shipment from Pgh. Pa., & Galion, O.

OPERATION—

Turn-O-Matic Cement Boxes are mounted on off-center trunnions which keep Boxes upright until batch load is to be discharged. When releasing a batch the spotter unclamps the corresponding Cement Box; as dump body is raised Box tilts downward automatically discharging cement and aggregates, directly into mixer hopper, without splash or dust.

INSTALLATION—

Turn-O-Matic Cement Boxes are installed close to the front of batch compartments in single or multiple batch trucks, at approximately same level as batch-gate hinges. Cement Boxes are easy to install, and can be removed when dump body is used for other service.

EXCLUSIVE DISTRIBUTOR

DRAVO-DOYLE COMPANY

2601 Preble Avenue, Pittsburgh 12, Pa., Allegheney 4300

SIMPLER! SAFER! EASIER!

SIMPLEX JACKS

LEVER — SCREW — HYDRAULIC

TEMPLETON, KENLY & CO.

Chicago 44, Ill.

Ask for Catalog 45 NOW

***Changed your* ADDRESS?**

Let us know so that we can keep copies of Engineering News-Record coming promptly.

TO: Circulation Dept.
Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

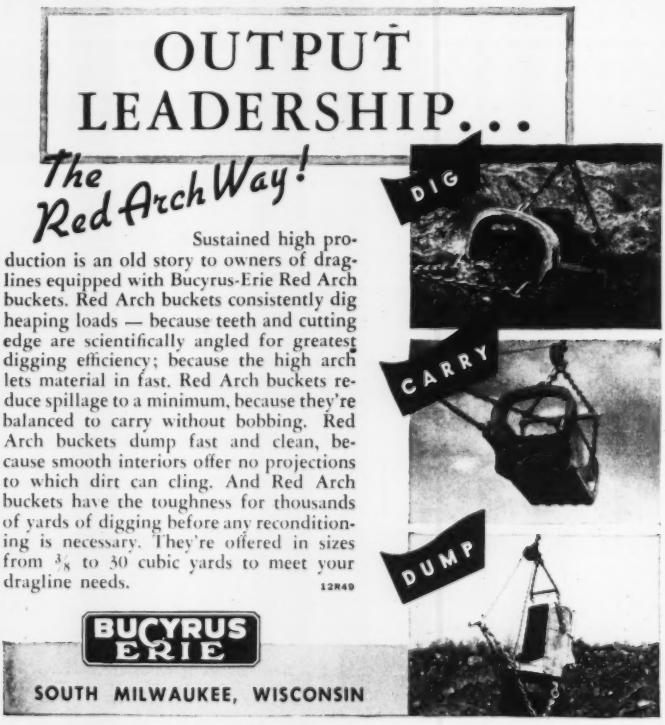
Name .....

Old Address .....

New Address .....

Company .....

Important TO HEALTH AND EFFICIENCY
COOL, PURE DRINKING WATER ...ON THE JOB
Dobbins Portable Sanitary Drinking Fountain
Assures an adequate supply of cool, pure drinking water for workers *everywhere*—in factory or field. Protects their health, and keeps them on the job. Fountain has inner water container of stainless steel. Four gallon tank is fully insulated. Constant air pressure for instant flow of water is furnished by a few strokes of the pump at widely spaced intervals. *Operates at the press of a button*, like any bubbler drinking fountain. May be easily carried from place to place by shoulder strap, or mounted on truck, tractor or locomotive.
Banishes germ-spreading cups, dippers, pails.
DOBBINS MANUFACTURING CO.
DEPARTMENT 653 ELKHART, INDIANA
Dobbins Superbilt PORTABLE DRINKING FOUNTAIN
WRITE TODAY FOR FREE DESCRIPTIVE FOLDER


OUTPUT LEADERSHIP...
The Red Arch Way!
Sustained high production is an old story to owners of draglines equipped with Bucyrus-Erie Red Arch buckets. Red Arch buckets consistently dig heaping loads — because teeth and cutting edge are scientifically angled for greatest digging efficiency; because the high arch lets material in fast. Red Arch buckets reduce spillage to a minimum, because they're balanced to carry without bobbing. Red Arch buckets dump fast and clean, because smooth interiors offer no projections to which dirt can cling. And Red Arch buckets have the toughness for thousands of yards of digging before any reconditioning is necessary. They're offered in sizes from 3/8 to 30 cubic yards to meet your dragline needs.
12R49
DIG
CARRY
DUMP
BUCYRUS ERIE
SOUTH MILWAUKEE, WISCONSIN

June 21

†South Dakota—RADIAL GATE—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Lemmon, 6x6 ft. high head radial gate; one set embedded metalwork for Shadehill Dam, Grand River Unit, Missouri River Basin Proj., Spec. 2679.

June 22

†Ohio — PIER — U. S. Eng., Engineer Park, Buffalo 7, N. Y., repairing West Pier, Huron Harbor, Serial No. Eng-3c-623-49-71.

June 23

†Oregon—OPERATING MACHINERY—U. S. Eng., 19 E. Poplar St., Walla Walla, manufacture and deliver operating machinery for Tainter Valves for McNary Dam, Serial No. Eng-45-164-49-93.

July 14

†Wyoming—HOLLOW JET VALVES, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., 48 in. hollow-jet valves and 48 in. ring-follower gates for Boysen Dam, Boysen Unit, Missouri River Basin Proj., Spec. 2673. Extended date, CD 5/16—ENR 5/26.

About January 1

Kan., Hutchinson — FIELD HOUSE — City, F. C. Smith, clk., City Hall, 218x228 ft., brick, rein.-con. field house. $994,000. Mann & Co., 201 First St. E., archts. CD 4/21—ENR 5/12.

LOW BIDDERS

●Iowa — RURAL DISTRIBUTION LINES—Corn Belt Power Cooperative, Humboldt, May 19, 236 mi. 69KV rural power lines, Palo Alto, Kossuth, Hancock, Floyd, Chickasaw, Bremer, Butler, Humboldt, Pocahontas, Buena Vista, Sac, Calhoun, Webster, Hamilton and Hardin Counties, from Walco Eng. & Constr. Co., 2408 E. 4 Pl., Tulsa, Okla., $1,117,328. CD 4/20—ENR 5/5.

Texas—RURAL DISTRIBUTION LINES—Fayette Electric Co-operative, LaGrange, 242 mi. rural distr. lines, Austin, Bastrop, Fayette, Colorado and Lavaca Counties, from Sisco Electric Co., Conroe, $277,621. Est. $196,000. Bids 5/17. CD 5/11.

Que., Quebec City —QUAY WALL—National Harbours Bd., West Block, Ottawa, Ont., May 29, quay wall, Shed 29, Quebec Harbour, from Atlas Constr. Co. Ltd., 4781 St. Catherine St. W., Montreal. Approx. $269,199. CD 4/28—ENR 5/12.

CONTRACTS AWARDED

Alabama — RURAL DISTRIBUTION LINES — South Alabama Electric Corp., Troy, 109.3 mi. rural power lines, Pike Co., to G. R. Wood, 711 Virginia St., Mobile, $116,406. Bids 5/20. CD 5/9.

Calif., Los Angeles — BEACHES — Bd. Supervs. Los Angeles Co., 501 Hall of Records, improv. 1¼ mi. Redondo Beach, Clifton Beach, El Porto Beach, life guard stations, comfort stations etc., to G. Iannini Co., 2761 Sepulveda Blvd., Manhattan Beach, $177,278. Bids 5/19, awarded 5/17. CD 4/27.

Ill., Harrisburg — STADIUM — Harrisburg Twp. School Dist., R. L. Foster, principal, Harrisburg, 49x144 ft., rein.-con. steel, brick football stadium, separate contracts, $65,000. Ralph D. Brown, Harrisburg, archt.

Ind., Lawrenceburg—DRIVE-IN THEATRE—William Statlander, Lawrenceburg, drive-in theatre, Rt. 50 between Lawrenceburg and Aurora, separate contracts. Approx. $60,000.

Miss., Perkinston — STADIUM — Perkinston Junior College, Perkinston football stadium, to J. C. McClendon, Gulfport, $63,850. Bids 5/18. CD 5/6—ENR 5/12.

Texas—PIPELINES—Pastotex Pipe Line Co., Box 1249, Houston, 22 mi. 6 in. crude oil pipeline between Scurry Co. and Dunn, to Morse Constr. Co., Synder, $115,000. CD 5/3—ENR 5/26.

Texas — STEEL TOWERS — Brazos River Transmission Electric Co-operative, Bleton and Waco, 2 way telephone-radio steel towers and facilities for station, force account, $70,000. CD 3/14/46—ENR 4/4/46.

Tex., Dallas — TELEVISION STATION — Lacy-Potter Television Broadcasting Co., 1519½ Commerce St., television station and tower, day labor, $135,000. CD 4/8—ENR 4/14.

●Utah—GAS PIPELINE—Mountain Fuel & Supply Co., 36 South State St., Salt Lake City, 32 mi. 20 in. natural gas supply line from Coalville to Salt Lake City, to Enoch Smith Sons Co., 1441 Beck St., Salt Lake City. Est. $1,750,000. CD 5/16.

Utah, Tooele—SWIMMING POOL—City, A. L. Hanks, city recdr., swimming pool, to Chytraus Constr. Co., P. O. Box 1165, Salt Lake City, $152,000. Bids 5/16. Fetzer & Fetzer, Templeton Bldg., archts., Dale James, city mgr. and engr.

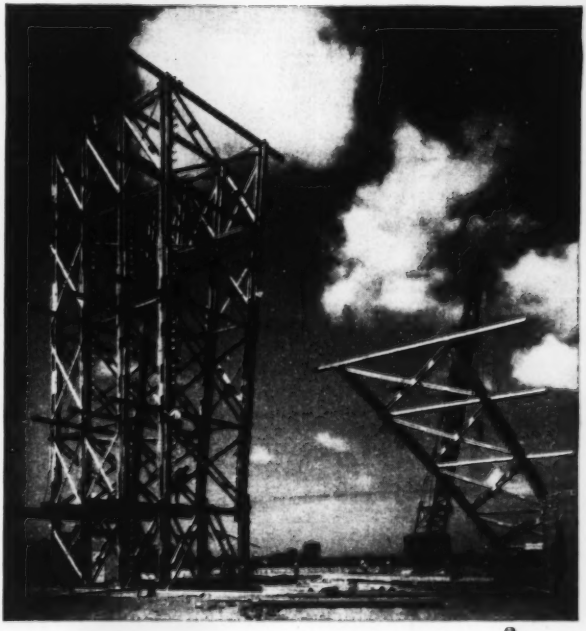
Que., Montreal — COMFORT STATIONS — Municipality, comfort stations, Rouen, Taillon, Iberville, Rivard, Hamilton Sts., Catherine, Dominion and Pullman Sts., Delormier, Kensington and Quinn Aves., to M. Janin & Co., Ltd., 380 Victoria Ave., $427,305. H. A. Gilleau, city engr.

Que., Quebec City—COLISEUM—Quebec Provincial Exhibition of City of Quebec, E. Boucher, mgr., coliseum at Exhibition Park, to A. Deslauriers et Fils, Ltd., 68 Inkerman St. Approx. $864,141. CD 5/20—ENR 5/26, under Lit.

SPEED CONSTRUCTION

LOWER COSTS with....

HINES TIMBER FABRICATION SERVICE



Hines engineers, distribution and manufacturing facilities, which go all the way back to harvesting trees in the forest, provide a timber fabrication service that's second to none. Our engineering staff is capable of initiating original designs and when Hines handles the job, timbers arrive at the construction site—sized, shaped, bored, marked and blueprinted so that erection crews can proceed with maximum speed and efficiency.

If you are planning a timber structure of any kind, bring Hines into the picture at the planning stage so that you can take full advantage of our complete "forest-to-you" service. We'll be happy to work with your architects, engineers and contractors. Just drop a letter to Hines home office, and a representative will call and give you a complete outline of this timber fabrication service.

PROTECTED QUALITY THE NAME OF FAME HINES IN LUMBER FROM TREE TO YOU

EDWARD HINES LUMBER CO.

2431 SO. WOLCOTT AVE. • CHICAGO 8, ILL.

Offices in Principal Cities

CONSTRUCTION REPORTS—Third Section

WATER SUPPLY

BIDS ASKED

June 8

N. Y., New York—Dpt. Water Supply, Gas & Electricity, Municipal Bldg., Zone 7, watermains in Yellowstone Blvd., 147 Pl., 53, 41 and Cypress Aves., 46, 69, 70 and 110 Sts., Queens Boro.

June 15

Alta., Suffield—Secy., c/o Canadian Commercial Corp., 70 Lyon St., Ottawa, Ont., water supply and storage facilities, Suffield Experimental Station. Approx. $50,000. Plans deposit $50.

June 22

†Colorado — U. S. Engr., P.O. Box 1538, Albuquerque, N. M., imprv. water supply facilities, equipping water wells, John Martin Reservoir Proj., Serial No. Eng-29-005-49-65. Extended date. CD 5/18.

LOW BIDDERS

Tex., Charlotte—Atascosa County Water Control & Imprvt. Dist. 1, Charlotte, May 23, water distr. sys., 50,000 gal. elevated tower and tank, from Mitchell Darby Constr. Co., Pharr, and Pittsburgh-Des Moines Steel Co., Praetorian Bldg., Dallas, $33,817. Est. $30,000. CD 5/10—ENR 5/12.

SEWERS, WASTE DISPOSAL

BIDS ASKED

June 13

Ont., Pembroke—Mayor and Town Council, S. A. Thomson, clk., Town Hall, sewers, sewage pump. station. Approx. $50,000. Plans deposit $20. J. P. Howe, c/o owner, engr.

June 24

†Neb., Omaha—U. S. Engr., 1709 Jackson St., Zone 2, sewers and pump. station, Unit 5, adjacent to Missouri River, Inv. No. Eng-25-066-49-257. Extended date. CD 5/18—ENR 5/26.

June 27

Calif., Placerville—City, City Hall, sanitary sewers, treatment plant, imprv. Approx. $50,000. Plans deposit $20. L. Cedric Macabee, 156 University Ave., Palo Alto, engr.

June 29

Pa., Phila.—Dpt. P. Wks., City Hall Annex, primary settling tanks, appurtenances, Southwest Treatment Wks. Approx. $200,000. A. Zane Hoffman, ch. engr. CD 11-24-44—ENR 12/14/44.

LOW BIDDERS

Mass., Gloucester—City Rd. Sewerage Survey, City Hall, May 29, sewage pump. station E. Main St., from C. L. Guild Constr. Co., Inc., 94 Water St., E. Providence, R. I., $57,765. CD 5/3—ENR 5/5.

Nev., Las Vegas—City, City Hall, rejected bids Mar. 22, sewage treatment plant and approach outfall sewer, L. B. $537,000. Will readvertise. CD 3/20—ENR 4/7, under LB.

Tex., Charlotte — Atascosa County Water Control & Imprvt. Dist., Charlotte, May 23, sewage collection lines, disposal plant, from Mitchell Darby Constr. Co., P. O. Box 479, Pharr, $53,000. Est. $50,000. CD 5/10—ENR 5/12.

Tex., Dallas—City, Earl Goforth, secy., City Hall, Knights Branch sanitary sewer line along Meckinsbird Lane, from City Constr. Co., 2411 Inwood Rd., Dallas, $28,199, materials $40,000. CD 5/10—ENR 5/12.

CONTRACTS AWARDED

Minn., Fergus Falls—City, K Mickelson, clk., sanitary sewer, to J. Diesel Co., Fergus Falls, $130,059. Bids 5/2. CD 4/12—ENR 4/14.

Wash., Tacoma—City, City Hall, 101,239 ft. sewers, Units 1 to 4, Local Improv. Dist. 1819, Fern Hill area, Unit 1, to Rushlight Automatic Sprinkler Co., 55 N. E. Farragut St., Portland, Ore., $119,190***Unit 2, to R. L. Moss, Zenith, $98,715***Units 3 and 4, to Woodworth & Co., Inc., 1200 E. D. St., $112,575 and $137,041 respectively. Grand total $467,521. Est. $483,000. Bids 5/23. CD 5/12.

BRIDGES

BIDS ASKED

STATE HIGHWAY LETTINGS

June 6	**June 8**
Connecticut	**Maine**
June 10	**June 21**
Minnesota	**Texas**
June 17	**June 22**
Pennsylvania	**Texas**
Tennessee	
West Virginia	

June 15

†N. Y., Montour Falls—U. S. Engr., Engineer Park, Buffalo, Zone 7, Owego Street Bridge, Serial No. Eng. 30-023-49-62. CD 12/29/44.

June 22

†Oklahoma—U. S. Engr., P. O. Box 61, Tulsa, Zone 2, Chouteau Creek Bridge, Oklahoma State Hy. 33, Fort Gibson Dam, Grand (Neosho) River, Mayes Co. Serial No. Eng-34-066-49-117.

LOW BIDDERS

New York—Henry A. Cohen, dir. Bureau Contracts & Accounts, The Governor Alfred E. Smith State Office Bldg., Albany, May 25, 0.36 mi. elimination grade crossing of S. Work St. with Erie R. R. Village of Falconer, Contr. No. PSC 2209, Chautauqua Co., from A. R. Menzies, 23 Villa Ave., Buffalo, $319,-605, est. $568,000***0.68 mi. elimination of grade crossing of New York Central R. R. and Pennsylvania R. R. with Ridge Rd., Contr. No. PSC 4235, $253, Erie Co., from W. F. Hendrich Co., Inc., Sidway Bldg., Buffalo, $426,160, est. $567,000***cantilever deck 2 at 84 ft., 2 anchor spans 44 ft. each 100 ft. suspended span 0.37 mi. Manitou Rd. E-172 Contr. No. E-172, Monroe Co., from D. W. Winkelman Co., Heffernan Bldg., Syracuse, $479,981, est. $539,543***240 ft. thru truss and plate girder apps. 0.22 mi. bridge across Hudson River Mechanicville and town of Schaghticoke, Contr. No. CHAP 236, LAWS 1946, Rensselaer and Saratoga Counties, from Frank E. Antolick, Schaghticoke, $419,073, est. $446,764. CD 5/4—ENR 5/12.

Texas—State Hy. Comm., Austin, May 25, substructure for girder bridges on Farm to Beaumont, 0.069 2 mi. Hy. U. S. 90, Control No. 28-9-18, FP No. FI 328 (3), Orange Co., from Texas Constr. Co., Thomas Bldg., Dallas, $589,249***structures, incidental grading 0.245 mi., Hy. U. S. 277 and 281 from north line of Sheppard Air Base to Red River Control No. 156-3-0 and 156-2-8, FP No. F 3 (7) and F-262 (20), Wichita Co., from W. O. Pelphrey, 1714 Electric Bldg., Ft. Worth, $59,388. CD 5/5—ENR 5/12.

CONTRACTS AWARDED

Alabama — State Hy. Dpt., Montgomery, bridges between Davenport and Chapman, F. I. 292 (2), Butler Co., to Goodwyne & Murphree, Troy, Ala., Proposal R and C, $87,959. Bids 4/29. CD 4/21—ENR 4/21, under Streets and Roads.

New York—Bureau Contracts & Accounts, P. Wks., Albany, grade separation to carry main line Erie R. R. over North Ave. in Owego, Tioga Co., to Harrison & Burrowes, Inc., 507 Summit Ave., Jersey City, N. J., $778,000. CD 4/22—ENR 4/28, under LB.

STREETS AND ROADS

BIDS ASKED

STATE HIGHWAY LETTINGS

June 6	**June 15**
Connecticut	**Louisiana**
June 7	**June 17**
West Virginia	**Tennessee**
June 10	**June 21**
Kansas	**Texas**
Kentucky	**June 22**
Minnesota	**Texas**
Washington	

June 7

N. Y., Eltingville — President Richmond Boro. Boro Hall, St. George, Zone 1, 8 in. c. conc. found., repaving Arden Ave., from Arthur Kill Rd. to 3,400 ft. easterly. CD 5/14/44—ENR 10/5/44.

June 13

Calif., Pasadena—City, 100 N. Garfield Ave., widen., imprv. Foothill Blvd. from Santa Anita Ave. to Sierra Madre Villa, $250,000. John H. Allin, city engr.

June 17

Pa., Bridgeport—Boro of Bridgeport, pave various streets. Approx. $50,000. Extended date. George B. Mebus, 112 S. Easton Rd., engr. CD 4/27—ENR 5/5.

June 21

†N. Y., East Sidney—U. S. Eng., P.O. Box 1715, Baltimore, Zone 3, Md., relocation secondary roads, East Sidney Reservoir, Delaware Co., Serial No. Eng-18-020-49-68. CD 5/25.

CONTRACTS AWARDED

Alabama—State Hy. Dpt., Montgomery, base and surf. 13.947 mi. Oldenville-Pell City Rd., and Eden Spur St., Clair Co., to W. L. Cobb Constr. Co., Inc., Jacksonville, Fla., $189,323 and $181,915* respectively***base and surf. 3.726 mi. from Bolizee toward Folkland, FA S-247 (1), Green Co., to Clyde O. Mitchell, 104 N. A St., Birmingham, $51,067***base and surf. 16.241 mi. Elba-Kinston Rd., Proj. S-503, Coffee Co., to Vandergriff Constr. Co., 4708 N. Court St., Montgomery, $81,269. Grand total $798,864. Bids 4/29. CD 4/18—ENR 4/21.

●California—State Div. Hys., Sacramento, c. conc. on bit. tr. subgrade 3.3 mi. constr. separation structures between South City Limits and High St., Oakland, Alameda Co., to Frederiksen & Nelson Constr. Co., 873 81 Ave., Oakland, $1,337,819; grade 4 lane divided hy. constr. 2 rein.-con overhead structures over tracks of Southern Pacific Co. between 1 mi. east of Auburn and 1 mi. west of Applegate, Placer Co., to United Concrete Pipe Corp. and Ralph A. Bell, Box 425, Baldwin Park, and Westbrook & Pope, 2331 Fair Oaks Blvd., Sacramento, $1,107,646. Bids 4/27. CD 5/3—ENR 5/5, under LB.

Idaho — State Hy. Dpt., Boise, roadbed, drainage structures, 1.147 mi. Lewis & Clark Hy., Idaho Co., to Tony Marrazzo, 308 N. Owyhee St., Boise, $227,853. Est. $183,810. Bids 5/13, awarded 5/21. CD 5/5.

South Carolina—State Hy. Dpt., Columbia, bit. surf. 7.905 mi. Rts. 61, 27, 56, 34, 31 and 37, S. C. Dockets 7.245, 27.242, etc., Beaufort and Jasper Counties and bit. surf. 15.053 mi. Rd. 11, Berkeley Co., to Claussen-Lawrence Constr. Co., Augusta, Ga., $92,794 and $178,260 respectively***bit. surf 7.251 mi. Rt. 54, S. C. Dockets 20.247 and 20.248, Fairfield Co., and bit. surf. 7.693 mi. Rds. 142, 143, 121 and 140, S. C. Dockets 41.241, Parts 1 through 5, 41.243 and 41.246 South Co., to Spotts & Co., Newberry, $88,680 and $193,157 respectively***bit. surf. 15.524 mi. Rds. 32 and 78, S. C. 21 (2), Abbeville Co., to R. L. Jones & Co., Winder, Ga., $137,846***grading, bit. surf. 3.099 mi. various streets, Charleston, S. C. Dockets 10.324, 10.329, etc., Charleston Co., to Banks Constr. Co., Charleston, $76,785***bit. surf. 7.521 mi. Rd. 41, S. C. Docket 14.259, Charendon Co., to J. F. Cleckley & Co., Orangeburg, $67,684***bit. surf 9 mi. Rds. 29 and 76, S. C. Docket 26.266, Horry Co., to Boyle Constr. Co., Sumter, $123,724***bit. surf. 4.684 mi. streets in Columbia and Rd. 48, S. C. Dockets 40.219 and 40.322, Richland Co., to Cherokee, Inc., & Sumter Hy. Columbia, $111,750. Grand total $980,679. CD 5/8—ENR 5/12.

BIDS ASKED

●New York—Henry A. Cohen, dir. Bureau Contracts & Accounts, The Governor Alfred E. Smith State Office Bldg., Albany, May 25, grading, drainage 6.52 mi. New England Thruway Contr. 2A, Contr. No. N. E. T. 49-1, Bronx Co., from Tully & Di Napoli, Inc., 3011 12 St., Long Island City, and Gull Contg Co., 168-25 Rockaway Blvd., Jamaica South, $461,-120 est. $725,000***bit. conc. 3.63 mi. Fulton Center-Newark Valley Pt. 1, Proj. S-338 (1), Contr. No. FAS SH 49-9, Broome Co., from Triple Cities Constr. Co., 17 Tompkins St., Binghamton, $354,278 est. $423,000***bit. conc. Type 2A, 0.77 mi. city of Batavia, Main St., Proj. U706 (2), Contr. No. FA-C 49-2, Genesee Co., from Potter-De Witt Corp., Pavilion, $399,646 est. $423,000***concrete fdn. widen. 3.18 mi., Baldwinsville-Village, Downer, Syracuse and Oswego Sts., S. H. 1634, Fulton-Baldwinsville Pt. 3, S. H. 2083, Contr. No. RC 49-53, Onondaga Co., from Mohawk Paving Co., Inc., Geneva, $102,041 est. $164,000***gray bit. mulch 1.4 mi. and 92 ft. Fosterdale-Falls Mill, Proj. S 275 (1), Contr. FA SS49-16, Sullivan Co., from Jess F. Howes, Sidney Center, $216,701 est. $255,000. CD 5/4—ENR 5/12.

†North Carolina—P. Rds. Admin., 1440 Columbia Pike, Arlington, Va., May 24, rein.-con. tunnel lining, stone masonry portal, etc., Blue Ridge Parkway, PRA Proj. 2 P 5, Buncombe Co., from Abbott & Ritchie, 320 W. Cary St., Richmond, Va., $131,440. H. J. Spelman, ch. engr. CD 5/4—ENR 5/12.

●Wisconsin—State Hy Comm., Madison, May 24, sheet asph. surf. 0.941 mi. W. Capitol Dr. (city of Milwaukee), W. Atkinson Ave. to N. Port Washington Ave., S. T. Hys. 57 and 190, Contr. 1 from Station 147 plus 13 to Station 196 plus 79, Proj. U-06-1 (22), Milwaukee Co., from Badger Constr. Co., 229 E. Wisconsin Ave., Milwaukee, $391,534***bit. c. conc. 12.15 mi. S. T. H. 47-East County Line Rd., U. S. Hy. 41, Contr. 1 Proj. F 03-2 (7), Outagamie Co., from Fahrner Asphalt Co., 7419 Franklin St., Forest Park, Ill., $478,661***bit. c. conc. 6.72 mi. S. T. H. 114-North County line and South County Line, U. S. H. 10 Rd., U. S. Hy. 41 Contr. 1 Proj. T-03-2 (6), and T 03-2 (8), Outagamie and Winnebago Counties, from Alexander Constr. Co., 4641 Hiawatha Ave., Minn., $289,041***bit. c. conc. 5.978 mi. S. T. H. 20, North County line-West Rosendale Rd. U. S. Hy. 41 Contr. 1 from Station 5 plus 00 to Station 329 plus 58.10, Proj. T-02-1 (8), Racine Co., from Payne & Dolan of Wisconsin, Inc., 733 N. Water St., Milwaukee, $198,995***grading, draining, base course, 3.812 mi. Vitrona-Rosdstown Rd., U. S. Hy. 14 and 61, Contr. 1, from Station 26 plus 00 to Station 330 plus 00.8, Proj. F-03-2 (15), Vernon Co., from P. W. Ryan Sons, 202 S. Third St., Janesville, $503,866***bit. c. conc. 7.85 mi. South County Line-Oshkosh Rd. U. S. Hy. 45, Contr. 1, Proj. T-0748 (2), Winnebago Co., from Rasmussen Constr. Co., East End 7 St., Oshkosh, $199,490. CD 5/8—ENR 5/12.

Proposal Advertisements see pp. 73 to 75

OFFICIAL PROPOSALS

Bids: June 22, 1949 (147)

Auditorium

ONONDAGA COUNTY WAR MEMORIAL AUDITORIUM

Syracuse, New York

SEALED PROPOSALS will be received until 2 P.M., E.D.T., Wednesday, June 22, 1949, by R. W. Sollinger, County Purchasing Agent in Room 107 at Court House, Syracuse, N. Y., at which time they will be publicly opened and read in Supervisors Chambers on Fourth Floor; for a multi-purpose auditorium building of 9,000 seating capacity, located in the City of Syracuse, New York.

Proposals will be received separately on General Construction with Arch-rib concrete roof structure; Plumbing; Heating; Ventilation; Refrigeration and Rink Piping; Electrical.

Information for Bidders, Plans and Specifications may be examined in the offices of the County Purchasing Agent, or Edgarton and Edgarton, Architect-Engineer Associates, 401 Herald Building, Syracuse, N. Y., or Syracuse Builders' Exchange, 207 James Street, Syracuse 2, New York. General information pertaining to the design of the concrete arch roof structure may also be obtained from Ammann and Whitney, Consulting Engineers, 76 Ninth Avenue, New York, 11, N. Y. Information pertaining to Mechanical and Electrical Work may be obtained from Robson & Woese, Inc., 2030 Erie Blvd. E., Syracuse, New York.

One set of General Construction Drawings and Specifications are obtainable from the County Purchasing Agent by General Contractors by depositing $50.00. One set of each Mechanical or Electrical Drawings and Specifications are obtainable from the County Purchasing Agent by Mechanical or Electrical Contractors by depositing $15.00 for each set. Any sets in addition to the above are obtainable by prime bidders by paying $30.00 per set of General Construction and $10.00 per set for each Mechanical or Electrical. The $50.00 and $15.00 deposit for the initial sets will be refunded upon return of the Drawings and Specifications, in good condition, within one week after bid opening date. The $30.00 and $10.00 payments for additional sets will not be refunded. Other than prime bidders shall buy plans and specifications from the Architect-Engineer without refund.

The right is reserved to reject any or all bids.

Dated, Syracuse, N. Y., May 11, 1949.

ROBERT W. SOLLINGER
County Purchasing Agent
107 Court House
Syracuse, N. Y.

Bids: June 29, 1949 (171)

Wiring and Equipment for Power and Communications

THE PORT OF NEW YORK AUTHORITY
NEW YORK INTERNATIONAL AIRPORT
CONTRACT NYA-29

Sealed proposals for furnishing and installing Wiring and Equipment for Power and Communications at New York International Airport will be received in the office of the Chief Engineer of The Port of New York Authority, Room 1109, 111 8th Avenue, New York 11, N. Y., until 2:00 P. M. Wednesday, June 29, 1949, and thereafter in the Auditorium of the Authority at the same address until 2:30 P. M. on the same date at which latter time and place said proposals will be publicly opened and read.

Contract documents may be seen at the office of the Chief Engineer and copies will be furnished upon deposit of $25 per set. The deposit will be remitted if the documents are returned in good condition, not later than thirty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman,
Chairman.

New York, June 2, 1949

"Opportunity" Advertising:
Think
"SEARCHLIGHT"
First

OFFICIAL PROPOSALS

Bids: June 8, 1949 (156)

State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.—Pursuant to the provisions of Chapter 63 Laws of 1936, as amended, and special provisions for projects financed with federal aid funds, sealed proposals will be received until ten-thirty o'clock A.M., advanced standard time, which is nine-thirty o'clock A.M., eastern standard time on June 8th, 1949 by Henry A. Cohen, Director, Bureau of Contracts & Accounts, 14th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following projects: Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts & Accounts, Albany, N. Y., and at the office of the District Engineers noted below, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for plans and proposal forms for each contract containing 1 to 15 sheets is $5.00; 16 to 30 sheets, $10.00; over 30 sheets, $20.00. A refund will be made in full to bidders for the return of one set in good condition within 30 days of award or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

County	Contract No.	Name	Miles	Type	Deposit	Estimated Cost of Work
		DISTRICT No. 2				
		L. Ketchum, Dist. Engr., 109 No. Genesee St., Utica, N. Y.				
Madison	RC 49-62	Lakeport-Oneida Lake, S. H. 1022 Bridgeport-Lakeport, S. H. 962	7.98	Asphalt Conc. Optional	$16.000 Plans $5.00	$274,000
		DISTRICT No. 3				
		Wm. Robinson, Dist. Engr., 301 E. Water St., Syracuse, N. Y.				
Onondaga	FC 49-1	Onondaga Indian Reservation Roads	1.23	Asphalt Conc. Optional	$11.000 Plans $5.00	$190,000
		DISTRICT No. 4				
		A. R. Mulligan, Dist. Engr., Barge Canal Terminal, Rochester, N. Y.				
Genesee	RC 49-57	Alexander-Canawangus, Pt. 3, S. H. 450	0.21	Roadside Development	$1,000 Plans $5.00	$18,200
Ontario	RC 49-58	Woodville-Bristol Springs S. H. 156	0.57	Roadside Development	$700 Plans $5.00	$12,500
		DISTRICT No. 5				
		C. R. Waters, Dist. Engr., 65 Court St., Buffalo, N. Y.				
Cattaraugus	RC 49-61	Salamanca-Ellicottville, Pt. 2, S. H. 1509	0.48	Conc. Slab, 22', 24' Asph. Conc. Optional	$5,000 Plans $5.00	$98,000
Erie	FASS 49-15	East Church St., Co. Rd., 488, Proj. S248(1)	0.38	Steel Arch 144' I-Beams 28", 36", 40' Asph. Conc. Optional	$12,000 Plans $5.00	$204,000
Erie	GISP 49-1	Grand Island State Parkway (West River Parkway)	4.75	2 Cres. Conc. 8" Thk.	$75,000 Plans $20.00	$1,314,000
		DISTRICT No. 6				
		H. F. Brumm, Dist. Engr., 30 West Main St., Hornell, N. Y.				
Chemung	RC 49-56	Horseheads-Montour Falls, S. H. 5208	2.13	Asph. Conc. Optional	$3,500 Plans $5.00	$63,000
Steuben	FAC 49-3 FARC 49-63	Corning City Denison Pkwy. Ext. Big Flats-Gibson, S. H. 742, Proj. C225(6)	0.28 0.46	Paving Deck Conc. 2 at 25'	$29,000 Plans $5.00	$497,000
Steuben	FASS 49-17	Arkport-Bishopville (Co. Rd. 67), Proj. S321(1)	0.06	Conc. Slab 35' Asph. Conc. Optional	$2,000 Plans $5.00	$39,000
		DISTRICT No. 7				
		R. F. Hall, Dist. Engr., 444 Van Duzee St., Watertown, N. Y.				
Franklin	FAS SH49-10	Bangor-Malone, Proj. S305(1), S 16		Conc. Slab 25' Asph. Conc. Optional	$35,000 Plans $10.00	$586,000
Clinton	RC 49-16	Elsinore-Dannemora, S. H. S340,1859, Pts. 1 & 2	4.88	Asph. Conc. Optional	$7,000 Plans $5.00	$137,000
		DISTRICT No. 8				
		J. S. Bixby, Dist. Engr., Pleasant Valley Rd., Poughkeepsie, N. Y.				
Putnam	RC 49-59	Brewster-Carmel, S. H. 909	1.86	Asph. Conc. Optional	$3,000 Plans $5.00	$52,000
Westchester	RC 49-60	White Plains-Rye Lake, S. H. 5226	1.10	Asph. Conc. Optional	$3,000 Plans $5.00	$57,000
Westchester	PSC 5969	Elimn of Grade Crossing N. Y. C. Railroad with Broadway & Cross Sts. at Hawthorn	0.46	Asph. Conc. Optional Plate Girder 82' Span Triple Span Pl. Grd. 214' 88" Total Span	$60,000 Plans $20.00	$1,034,000
Westchester	CCP 49-1	Cross County Parkway to Hutchinson Parkway (Wartburg Conn.)	0.58	Elip. Arch 50' 7½" Span Conc. Arch 53' 10" Span Conc. 8" Thk., 24' 12' Var. Wdt. Rigid Fr. 87' 6"	$90,000 Plans $10.00	$1,548,000
Westchester	FGRC 49-51 FARC 49-52	Sep. of Grades N. Y. C. R. R. with S. H. 1324 Whitehall Cors.-Wrights Cors. Proj. F(643:11), F(643:11)	0.58	Rigid Fr. 40', 50', 60' I-Beams (Alpha) 90' (219.10) Conc. 8" Thk., 22'-48' Wdt.	$25,000 Plans $5.00	$434,000
Ulster	PSC 4781	City of Kingston, Broadway		Demolition of Bldgs.	$1,500 Plans $5.00	$28,000
		DISTRICT 10				
		J. J. Darcy, Dist. Engr., Montauk Hwy. at Little E. Neck Rd., Babylon, L. I., N. Y.				
Bronx	FA MDE49-2	Major Deegan Expressway Cont. 2: Proj. U1082(4) (East 157th St.)	0.30	Conc. & Steel Viaduct Conc. 9" 2 at 36'	$100,000 Plans $20.00	$3,486,000

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by cash, draft or certified check payable to the order of "State of New York, Commissioner of Taxation & Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders". When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

The right is reserved to reject any or all bids.

B. D. TALLAMY
SUPT OF PUBLIC WORKS

(Continued on page 74)

U. S. Government
(Continued from page 73)

Office of the District Engineer, Corps of Engineers, U. S. Army, 1217 U. S. Post Office and Custom House, St. Paul 1, Minnesota.—Sealed bids, in duplicate, for furnishing all labor and material and performing all work required for Channel Improvement on Clearwater River, Minnesota, Stage No. 2, will be received in this office until 11:00 A.M., C.S.T., 16 June 1949, and then publicly opened. Further information upon application. (173)

GOVERNMENT OF THE DISTRICT OF COLUMBIA, DIRECTOR OF SANITARY ENGINEERING, D. C., May 26, 1949. SEALED PROPOSALS will be received in Room 509, District Building, 14th Street and Pennsylvania Avenue, N. W., Washington 4, D. C., until 2:00 P. M., DAYLIGHT SAVING TIME, June 16, 1949, and then publicly opened and read for the construction of STORMWATER AND SANITARY SEWERS, Between New York Avenue and "W" Street, vicinity 15th Street, N. E., Washington, D. C. This project consists of the following: 141½ lin. ft. of 3'6" brick and concrete masonry and 8" dia. cast iron pipe sewer; 16 lin. ft. of brick and concrete masonry transition section and junction chamber; 180 lin. ft. of 12" dia. terra cotta pipe sewer; 7½ lin. ft. of 8" dia. cast iron pipe sewer; 45 lin. ft. of 3'0" dia brick and concrete masonry sewer; all in OPEN CUT. IN TUNNEL—6,890 lin. ft. of 3'6" brick and concrete masonry and 8" dia. cast iron pipe sewer. Proposal forms, plans and specifications may be obtained in Room 427, District Building. (Telephone National 6000, Extension 2378) (168)

GOVERNMENT OF THE DISTRICT OF COLUMBIA, DIRECTOR OF SANITARY ENGINEERING, D. C., May 26, 1949. SEALED PROPOSALS will be received in Room 509, District Building, 14th Street and Pennsylvania Avenue, N. W., Washington 4, D. C., until 2:00 P.M., DAYLIGHT SAVING TIME, June 17, 1949, and then publicly opened and read for the construction of IVY CITY TRUNK SEWER—New York Avenue and Kendall Street to 13th and 'W' Streets, N. E. This project consists of the following: OPEN CUT—976 lin. ft. of 7'0" brick and reinforced concrete masonry sewer; 10 lin. ft. of 3'0" dia. brick and plain concrete masonry sewer; 29 lin. of brick and concrete masonry transition section and junction chamber. IN TUNNEL—870 lin. ft. of 7'0" brick tand reinforced concrete masonry sewer and 30 lin. ft. of 3'0" brick and concrete masonry sewer. Proposal forms, plans and specifications may be obtained in Room 427, District Building. (Telephone National 6000, Extension 2378). (169)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation, Sealed bids (Specifications No. 2684) will be received by Bureau of Reclamation, Denver, Colorado, June 24, 1949, and then publicly opened for furnishing labor and materials and performing all work for construction of earthwork, concrete lining, tunnel, and structures for Horsetooth supply conduit, station 0+00 to station 52+88, Horsetooth Feeder Canal, station 53+70 to station 67+52, and access road. The work is situated about 8 miles west of Loveland, Colorado. Principal items are approximately: 45,000 cu. yds. excavation for structures and canal; 17,000 cu. yds. excavation in tunnel; furnishing and installing 204,000 lbs. steel tunnel supports; furnishing cement and reinforcement and placing 4,800 cu. yds. of concrete; installing 78,000 lbs. of gates, hoists, and miscellaneous metalwork; and other work. Time allowed for completion will be 480 days. For particulars, address Bureau of Reclamation, Fort Collins, Colorado; or Building 1-A, Denver Federal Center, Denver, Colorado.
MICHAEL W. STRAUS, Commissioner. (174)

OFFICIAL PROPOSALS

Bids: June 16, 1949 (167)

Storage Reservoirs

CONTRACT 156
CONSTRUCTING THE WICKHAM HILL STORAGE RESERVOIRS

SEALED PROPOSALS addressed to The Board of Contract and Supply of The Metropolitan District and endorsed "CONTRACT 156—PROPOSAL FOR THE CONSTRUCTION OF THE WICKHAM HILL STORAGE RESERVOIRS IN THE TOWN OF EAST HARTFORD, CONNECTICUT", will be received at the Executive Office of The Metropolitan District, 115 Broad Street, Hartford, Connecticut, until 1:15 P. M., Eastern Standard Time (2:15 P. M. Eastern Daylight Saving Time), Thursday, June 16, 1949, at which time and place they will be publicly opened and read.

Proposals shall be submitted either by messenger, registered mail or Railway Express Agency, Inc.

After the bids are opened and read they will be taken under advisement and the award of the contract, if awarded, will be made as soon thereafter as practicable.

The work to be done consists of the construction of two covered reservoirs on Metropolitan District property in the northeast section of East Hartford, each 117 feet square and 23¼ feet deep (27½ million gallons capacity each), of reinforced concrete, flat-slab construction, with the necessary pipe lines, drainage structures and control chambers; the principal materials, except concrete, furnished by the District.

Approximate quantities for the principal items:

Earth excavation and refill	22,000 cubic yards
Concrete masonry	4,600 cubic yards
Placing reinforcing steel	465 tons

Plans and specifications may be obtained on and after June 2, 1949, at the Office of the Deputy Manager and Chief Engineer of The Water Bureau of The Metropolitan District, 2 American Row, Hartford, Connecticut, on deposit of ten dollars ($10), in cash or certified or cashier's check, made payable to The Water Bureau of The Metropolitan District, which amount will be refunded if both are returned in good order within one month of date of opening of bids. No deposits will be refunded after that time. Specifications used in making a bid will be considered as returned.

Each proposal must be accompanied by a certified check for an amount covering not less than ten per cent (10%) of the total amount bid, made payable to The Metropolitan District, and a satisfactory surety bond, as stated in the Information for Bidders, for the total amount bid will be required of the successful bidder for the faithful performance of the contract.

The right is reserved to accept any bid, whether or not the lowest, or to reject any or all bids as the interest of the District may appear to require.

BOARD OF CONTRACT AND SUPPLY,
By: Richard Dillon, Clerk.
Hartford, Connecticut,
May 25, 1949.

Bids: June 16, 1949 (166)

Bridge

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

PALISADES AVENUE BRIDGE

Construction of Palisades Avenue Bridge over Ravine Road in Jersey City, Hudson County, Federal Aid Secondary Project No. S-124(1).

Estimated:

3,000 cu. yds.	Foundation Excavation
2,215 cu. yds.	Concrete
155 cu. yds.	Stone & Dimension Masonry
600,000 lbs.	Structural Steel
220,000 lbs.	Reinforcement Steel
1,110 sq. yds.	Sheet Asphalt Pavement
	Clearing Site
	Electric Conduits & Encasement
	Lighting

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, New Jersey, on Thursday, June 16, 1949, at ten o'clock (10:00 A.M.—EASTERN STANDARD TIME) o'clock (11:00 A.M.—DAYLIGHT SAVING TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

NOTE: The proposed project is a "Federal Aid Secondary Project" authorized by the provisions of Title 27 of the Revised Statutes of New Jersey and Supplements and by Sections 2, 3 and 4, P. L. 521, 78th Congress, and is to be performed in accordance with the special provisions and requirements of the Federal Works Agency, Public Roads Administration, as outlined in the specifications, which provisions require that labor be employed from lists furnished by the State Employment Service, 2855 Boulevard, Jersey City, New Jersey. The attention of bidders is directed to the special provisions covering subletting or assigning the contract. The minimum wage paid to all unskilled labor employed on this contract shall be 65¢ per hour. The minimum wage paid to all intermediate grade of labor employed on this contract shall be 75¢ per hour. The minimum wage paid to all skilled labor employed on this contract shall be $1.25 per hour.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plates will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

Bids: June 20, 1949 (172)

Drainage for Miscellaneous Areas

THE PORT OF NEW YORK AUTHORITY
NEW YORK INTERNATIONAL AIRPORT
CONTRACT NYA-93

Sealed proposals for drainage for miscellaneous areas at New York International Airport will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 8th Avenue, New York 11, N. Y., until 11:30 A. M., Monday, June 20, 1949, at which time and place said proposals will be opened and read.

Contract documents may be seen at the office of the Chief Engineer, and copies will be furnished upon deposit of $10 per set. The deposit will be remitted if the documents are returned in good condition, not later than thirty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman,
Chairman.
New York, June 2, 1949

Bids: June 30, 1949 (170)

Fills for Runways and Taxiways

THE PORT OF NEW YORK AUTHORITY
NEWARK AIRPORT
CONTRACT NA-14

Sealed proposals for furnishing and placing fill for runways and taxiways at Newark Airport will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 8th Avenue, New York 11, N. Y., until 2:00 P. M. Thursday, June 30, 1949, and thereafter in the Auditorium of the Authority at the same address until 2:30 P. M. on the same date, at which latter time and place said proposals will be publicly opened and read.

Contract documents may be seen at the office of the Chief Engineer and copies will be furnished upon deposit of $25 per set. The deposit will be remitted if the documents are returned in good condition, not later than thirty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman,
Chairman.
New York, June 2, 1949

SEARCHLIGHT SECTION

U. S. Government
(Continued from page 74)

GOVERNMENT OF THE DISTRICT OF COLUMBIA, DIRECTOR OF SANITARY ENGINEERING, D. C., May 21, 1949. SEALED PROPOSALS will be received in Room 509, District Building, 14th Street and Pennsylvania Avenue, N. W., Washington 4, D. C., until 2:00 P.M., DAYLIGHT SAVING TIME, June 13, 1949, and then publicly opened and read for the construction of the Emerson Street Storm Sewer, Section 2, and South Dakota Avenue Sanitary Sewer. This project consists of 4,170 lin. ft. of 6'3" to 18'0" x 7'3" diameter reinforced concrete and brick masonry; 1,810 lin. ft. of 2'0" x 3'0" to 5'0" diameter concrete and brick masonry; 50 lin. ft. of 4'0" and 3'0" diameter reinforced concrete pipe; 1,170 lin. ft. of 12" to 24" diameter terra cotta pipe; and 157 lin. ft. of junction chamber and transition section. Proposal forms, plans and specifications may be obtained in Room 427, District Building (Telephone National 6000, Extension 2378). (161)

GOVERNMENT OF THE DISTRICT OF COLUMBIA, DIRECTOR OF SANITARY ENGINEERING, D. C., May 23, 1949. SEALED PROPOSALS will be received in Room 509, District Building, 14th Street and Pennsylvania Avenue, N. W., Washington 4, D. C., until 2:00 P.M., DAYLIGHT SAVING TIME, June 14, 1949, and then publicly opened and read for MAIN SEWAGE PUMP No. 2, SEWAGE TREATMENT PLANT, Washington, D. C. Proposal forms, plans and specifications may be obtained in Room 427, District Building (Telephone National 6000, Extension 2378), upon the deposit of a certified check, in the amount of Ten Dollars ($10.00) for each set, made payable to the Collector of Taxes, D. C. (164)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2685) will be received by Bureau of Reclamation, Denver, Colorado, June 21, 1949, and then publicly opened for furnishing four 77-inch regulating gates, complete with hoists, drive units, indicators and limit switches, and one set of erection equipment; and four sets of conduit sections for Canyon Ferry Unit, Montana, Missouri River Basin Project. Delivery is desired within 260 days. For particulars, address Bureau of Reclamation, Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner. (165)

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS, Foot of Prytania Street, New Orleans, La.—Sealed bids will be received in this office until 11:00 a.m., CST, 17 June 1949, and then opened for the construction of Schooner Bayou Control Structure approximately 18 miles south of Abbeville in Vermilion Parish, La., New Orleans District. Principal quantities involved are approximately 40,000 cu. yds. excavation, 4,600 cu. yds. concrete, 6,800 lbs. cement, 600,000 lbs. steel reinforcement, 17,500 lbs. structural and miscellaneous metal, steel sector gates, operating machinery, and miscellaneous items. Further information on application.

MICHAEL W. STRAUS, Commissioner. (144)

OFFICIAL PROPOSALS

Bids: June 29, 1949 (162)

Sewage Disposal Project

PHILADELPHIA, PENNA.
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING, SURVEYS AND ZONING

Sealed Proposals will be received at Room 903 City Hall Annex, until 12:00 o'clock noon, Daylight Saving Time, WEDNESDAY, JUNE 29, 1949, and opened at that time in Room 1025 City Hall Annex, Philadelphia, Penna. for the

SEWAGE DISPOSAL PROJECT
SOUTHWEST TREATMENT WORKS at PENROSE AVENUE AND 80th STREET
SCHEDULE "A"—GENERAL CONSTRUCTION WORK AND FURNISHING AND INSTALLING MECHANICAL EQUIPMENT AND PIPING FOR PRIMARY SETTLING TANKS AND APPURTENANT WORK—CONTRACT NO. SD 123 SW

The structure will be 504 feet long by 234 feet wide including four Primary Settling Tanks and two flocculation channels, with sludge and scum collectors, and air diffuser system.

Proposal forms and specifications may be obtained in Room 1101 City Hall Annex. Blue prints of plans may be purchased at bidder's expense, directly from the Keystone Blue Paper Co., 51 North 13th Street, Philadelphia 7, Penna.

No bid will be received unless bidder is qualified by the Director of Public Works. The questionnaire form with all questions fully answered must be filed with the Director of Public Works at least one week prior to the date of opening bids.

Each bid must be accompanied by security in form and amount as set forth in the proposal form.

THOMAS BUCKLEY, Director

Bids: June 16, 1949 (163)

Barges and Towing Service

Notice is hereby given that sealed proposals for furnishing, maintaining and operating one or more barges and towing service for the transportation of sewage sludge from a private wharf on Arthur Kill, in the City of Elizabeth, New Jersey to a point at sea for a period of one, two, three, four or five years, will be received by the Joint Meeting for certain municipalities in Essex and Union counties, New Jersey.

Said proposals will be received in the Council Chamber City Hall, East Orange, New Jersey at 4:00 P.M. Eastern Daylight Saving Time on Thursday, June 16, 1949, at which time they will be publicly opened and read. Information concerning this work, blank forms of questionnaires, specifications and proposals forms may be obtained from the office of the Secretary of Joint Meeting, Room 311, City Hall, Newark, New Jersey.

The Joint Meeting reserves the right to reject any or all proposals and also reserves the right to waive any informality in the bid and to accept the bid which in its judgment, best serves the interest of the contracting municipalities.

By order of the Joint Meeting.
G. HARRY CULLIS, Chairman
EDWARD P. DECHER, Secretary.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WANTED—ENGINEERS, Architects, Draftsmen experienced in the design of sewers, sewage treatment plants, water treatment plants and industrial buildings. Also engineers to supervise construction. State qualifications, experience, salary requirements and date available. P-1155, Engineering News-Record.

ESTIMATOR: EXPERIENCED quantity survey estimator and project manager wanted for permanent position in a growing organization. Give complete experience record and references. P-8894, Engineering News-Record.

WANTED IRRIGATION Engineer, with at least ten years experience in planning, designing and estimating distribution systems and drainage works and with basic knowledge of agronomy. U. S. engineering firm with initial assignment Near East. P-8917, Engineering News-Record.

WANTED: SUPERINTENDENT for heating, piping and air conditioning contractor located in Central Pennsylvania. Experience necessary. Salary plus commission. Send references and state age and experience in first letter. P-8846, Engineering News-Record.

CIVIL ENGINEERING; College teaching; New England. One position involves research of Materials and Mechanics; some opportunity for developments in testing lab.; Master's desirable. Second position involves teaching in Sanitary Engineering along with Mechanics and Surveying, at least Master's degree. Instructor or assistant professor. P-8915, Engineering News-Record.

WANTED: THOROUGHLY experienced estimator for building contractor specializing in public works. Stanley W. Newman Co., Inc., Mobile, Ala.

(Continued on page 76)

EMPLOYMENT

WANTED
CONSTRUCTION SUPERINTENDENT
WITH REFINERY AND HEAVY CONSTRUCTION EXPERIENCE. LOCATION SOUTH NEW JERSEY AND EASTERN PENNSYLVANIA. STATE AGE, EXPERIENCE AND FULL PARTICULARS.
P-8582, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

WANTED
For Large Costruction Project
Northern Chile, 9200', Equable Climate
Eighteen Months Contract—Proven Experience
Ability to Speak Spanish Desirable
UTILITY SUPERINTENDENTS (PIPELINES, CARPENTRY, CONCRETE, ETC.)
COST & FIELD ENGINEERS
DIESEL MECHANIC SPECIALISTS
ELECTRICIANS (HY. EQUIPMENT & GEN. CONST. OPERATIONS)
ACCOUNTANTS
STENOGRAPHERS — MALE BILINGUAL
EARTH & ROCK SUPERINTENDENTS
SAFETY ENGINEERS
WAREHOUSE SUPERINTENDENTS
MECHANICAL SUPERINTENDENTS
PLUMBING SUPERINTENDENTS
OPERATORS
P-8892, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

GRADUATE CIVIL ENGINEER
with broad experience, a substantial portion of which has been in hydraulics. An excellent opportunity with a large public utility located in eastern Pennsylvania. Apply by letter stating education, experience and salary requirements. Address
P-8786, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

EXPERIENCED ESTIMATOR
Wanted by established Phila. concern for Sewers, Highways, Bridges, Treatment Plants. State Salary, experience, and when available.
P-8955, Engineering News-Record
330 W. 42 St., New York 18, N. Y.

WANTED
Structural Designers
Steel and reinforced concrete, experienced on industrial buildings. Permanent positions. Apply by letter stating age, education, experience and salary.
R. H. MAVEETY
53 W. Jackson Blvd. Chicago 4, Ill.

ESTIMATOR
For underground power and telephone conduit work and gas main construction in greater Boston. Experience essential. Permanent position. Apply by letter only stating qualifications, experience, age, former employers, references, and salary required.
BOND BROS., INC.
77 Ferry Street Everett, Mass.

SEARCHLIGHT SECTION

ASPHALT EXECUTIVE

Large oil company, not now in road and industrial asphalt business, desires executive capable of developing this field from standpoint of manufacturing, research, and sales operations. Unusual opportunity, with good salary and other benefits.

Besides sales engineering ability, this executive must be familiar with the chemistry of asphalt, and know specifications and manufacturing techniques of the product.

All replies in strict confidence. Give full information with application.

P-9009, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

MAN WANTED
SALES ENGINEER

For selling and promoting asphalt construction and materials. Permanent position and excellent opportunity for right man. State qualifications and references.

SW-8369, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

POSITIONS VACANT
(Continued from page 75)

CONSTRUCTION SUPERINTENDENT who has specialized on the placing of concrete. For a man who is thoroughly familiar with concrete plant, concrete, and form costs, etc., we have an exceptional opportunity. Give full particulars of experience and education. P-9018, Engineering News-Record.

STRUCTURAL DESIGNERS and draftsmen experienced in bridge work. Middle Atlantic location. Permanent positions for qualified men. P-9053, Engineering News-Record.

POSITIONS WANTED

SUPT. ASPHALT Paving work General construction 25 years experience operate any type mix estimate cost and do work economically. Chemical Engineer. Speak Spanish. PW-8859, Engineering News-Record.

AMBITIOUS CHIEF Accountant experienced in corporate setups, finances and joint venture projects desires position with reputable engineering of construction firm. Twenty-five years experience large and small projects all types construction. Now employed but desire change. A-1 references and bond, latest cost methods used. PW-8888, Engineering News-Record.

CIVIL ENGINEER, age 39—15 years experience in the field and office on location and topographic surveys, highways, pipelines, heavy construction. Desire foreign position. PW-8904, Engineering News-Record.

STRUCTURAL ENGINEER, Cornell graduate, licensed, 25 years varied experience in design and construction of subways, buildings, foundations, docks, statically indeterminate analysis, etc. PW-8907, Engineering News-Record.

CONSTRUCTION SUPERINTENDENT — 27 years experience in complete charge of projects consisting of: chemical plants; slip-form concrete structures; material handling and process equipment; installing grain elevators and dryers; cement plants. Under fifty years of age. Will go any location. Further details on interview. PW-8914, Engineering News-Record.

CONTRACTOR'S RIGHT Hand Man; age 36, experienced Manager-Estimator-Purchasing Agent On Commercial, Multi Residential, Industrial Bldg. Construction—including all utilities,—and engineered construction covering, airports, marine facilities, railroads, roads, and quarry operation. Desires permanent position as Manager, Estimator, or Purchasing Agent for Gen. Contractor, or as Area Sales Manager for Cement co., bldg. supply co., or w equipment mfg. or dealer. Good references. In reply state exact salary connected with position open. PW-8941, Engineering News-Record.

LICENSE PREPARATION

Prof. Engineer, Architect, Surveyor, includes Design (Machine, Electrical, Structural, Reinforced Concrete, Architectural, Civil Engineering, Mathematics thru Calculus, Bldg. Constr. Estimating, including Questions & Answers of past exams. Civil Service Eng. Exams, City, State and Federal.

MONDELL INSTITUTE
230 West 41st St., N. Y. City. Wisconsin 7-2086
Thousands of Successful Students in over 35 years of Technical & Engineering Preparation.

POSITIONS WANTED

CONTRACTOR'S OFFICE Engineer: 32, married, registered structural, 10 yrs. experience structural drafting and construction details. Office-field coordination, quantity surveys, architectural trades, frame, commercial, industrial, and some road work. Want connection with live-wire midwestern firm. PW-9063, Engineering News-Record.

FORMER REGULAR Army Engineers control, age 36 desires permanent position with general contractors or oil industry. Considerable heavy construction experience in U. S. and tropics. Complete history furnished on request. PW-9037, Engineering News-Record.

GENERAL SUPERINTENDENT, 50, of the highest grade available for concern doing major heavy work, bridges, foundations and marine structures. Excellent references. Address PW-9038, Engineering News-Record.

TOP FLIGHT Construction Executive has C.E. and L.L.B. degrees. Many years with pre-war background as Construction Superintendent industrial plant and commercial buildings of large magnitude. Low cost producer and fast completions. Well recommended. Address PW-9039, Engineering News-Record.

PROJECT MANAGER or General Superintendent desires connection with construction company doing foreign or domestic work. Broad experience heavy construction, organization and over-all management. Large well trained following. Highest references. Available June 1st. PW-9054, Engineering News-Record.

CONTRACTORS SUPT., executive, desires change. Preferably bridges, reservoirs, filter plants, foundations, etc. Some building experience. 57 years good health, fair education, clean habits. Eastern states. $150 wk. plus %. PW-9070, Engineering News-Record.

CONSTRUCTION ENGINEER; Graduate. Age 39; 17 years experience heavy construction; concrete, steel, excavation, marine construction. 12 years as Project Engineer and Construction Manager. Available immediately. Salary open. PW-8977, Engineering News-Record.

SUPERINTENDENT CONSTRUCTION, 25 years institutional, industrial or commercial projects. Anywhere. Engineer. Salary $150.00. PW-8963, Engineering News-Record.

GENERAL FOREMAN—Civil Service, 40 yrs. exp. Veteran W.W.I., married, age 54. Operation or maintenance-mech. Qualified steam, gas, diesel and compressed air. Will travel. PW-9066, Engineering News-Record.

STRUCTURAL DESIGNER, Steel and Concrete, on power plants, industrial buildings, rigid frames etc. for approx. 8 years. Also experienced on hydraulic designs of sewer areas. Age 39, registered N. Y. state. Wishes to locate on west coast, preferably California. PW-9072, Engineering News-Record.

DRAINAGE-SEWER Engineer, 7 yrs. responsible charge of design of large drainage and sewerage districts. Wants responsible position, 20 yrs. background includes structural des., general construction. N. Y. license. Prefers western coastal section. PW-9071, Engineering News-Record.

OVERSEAS ASSIGNMENT wanted: 32, married, registered structural engineer, 4 yrs. with engineers-architects as structural draftsman, 6 yrs. with general contractors, office-field coordination, quantity surveys, estimating commercial and industrial work, construction details. Have had previous overseas assignment. PW-9062, Engineering News-Record.

CIVIL ENGINEER P. E., Licensed N. Y. & N. J. over 20 yrs. of excellent experience here and abroad as project manager and designer of industrial buildings, hydro-electric development, bridges, etc., office and field. Interested in responsible position here or abroad where initiative, resourcefulness and background are needed. PW-9076, Engineering News-Record.

POSITIONS WANTED

OFFICE MANAGER, Chief Accountant Auditor. 15 years diversified experience in oil heavy and housing construction. Go anywhere. Available June 20th. Resume upon request. PW-9074, Engineering News-Record.

ENGINEER, STRUCTURAL and Civil, P. E. license N. Y. State, age 25, married, desires position with responsibility in building industry, or fee basis work with architects. PW-9078, Engineering News-Record.

SELLING OPPORTUNITY WANTED

GOING TO established residence in Florida seeking a sales position or a distributorship in contractors equipment or building equipment. Have had thirty years experience in these two fields. I am in the upper forties and very aggressive. SA-9030, Engineering News-Record.

BUSINESS OPPORTUNITY

Wanted registered Civil Engineer
with investment for active partner in an established civil engineering practice. Location Pacific Coast states. Applicant must be competent to assume responsibility. BO 9040, Engineering News-Record.

FOR SALE
CONSULTING ENGINEERS
PRACTICE AND EQUIPMENT
Largely Municipal In Pacific Northwest
BO-8446, Engineering News-Record
68 Post St., San Francisco 4, Calif.

AN AUCTION
HEAVY CONSTRUCTION EQUIPMENT
TUES., JUNE 7th, 10 A.M.

Located at Republican City, Nebr., a complete dirt moving outfit each piece just 2 years old, used on only 1 dirt moving job. #362 Marion 1½ cu yd shovel a 1¾ cu yd dragline combination, 50' boom, 10' ext, 1¾ yd Page bucket, light plant, 33" crawler shoes, 2377 hours like new; 4-D8 Caterpillar Diesel tractors, LeTourneau dozer & angledozer, Cat dozer, & 1 with light system & front pull hook, about 2500 hours each; #12 Cat Motor grader, 2802 hrs; 10 Euclids, 6 with Cummins Diesel & 4 with GM Diesel engines, 13 cu yds, Models 58WG & 58W, 1350 to 2400 hrs; Cat 4E elevating grader, 2802 hrs; 2 #3 Dixson bottom dump wagons, 18-20 cu yds, adapted to Terra Cobra tractor units, 150 hrs; 2 Wooldridge Terra Cobra Tractor & Scraper units, 150 hp Cummins Diesel engines, 835 & 1104 hrs; 6 trucks; light plants, welders, generators, pumps, Hyster Winch for D8, repair parts, tools and many other items. Each piece is in A-1 condition ready to be put right on the job, write or wire auctioneers for complete sale bill. Each piece positively sells to highest bidder.

MARK WALKER & SON CO., *Owner*
Santa Ana, Calif.
FORKE BROS. & FICKE,
The Auctioneers,
314 Sharp Bldg. Lincoln, Nebr.
Phone 2-7045

SURVEYING INSTRUMENTS
USED • REBUILT • SALE
RENT • REPAIRING

It costs no more
to have your instruments of any make
repaired by the makers of the
WORLD'S FINEST SURVEYING INSTRUMENTS
since 1871
C. L. BERGER & SONS, INC.
37 Williams Street, Boston 19, Mass.

NEW PARTS

FOR

Tractors, Graders, Scrapers, Shovels, Cranes, Trench Diggers, etc.

(Allis Chalmers, Caterpillar, International, Barber-Green, Insley, Buckeye, Northwest, Loraine, Turnapull.)

Cutting Edges All Sizes—Fairleads

CEMENT MIXERS

2 Ransome and 1 Rex

Excellent Condition

JULIUS HEBENSTREIT, INC.

56-15 58th St. Maspeth, L. I.

Tel. DAvenport 6-1461

Cable: Habenjul New York

IMMEDIATE DELIVERY

BPS and WIDE FLANGE BEAMS

8"	31#, 36#	40	60'
10"	42#, 49#, 54#, 57#	24	65'
12"	53#, 65#	36	50'
14"	73#, 87#, 89#, 95#	28	60'
21"	112#, 132#	40	60'
24"	100#	30	60'
27"	94#	55'	
30"	116#	35'	
36"	160#, 170#, 182#, 194#, 260#, 300#	35	80'

I BEAMS, ANGLES, PLATE, CHANNELS, SHIP CHANNELS

HY DRACHMAN STEEL Corp.

Warehouse 14-23 34th Ave. Astoria, Long Island AStoria 8-8023—8-8096

Sales Office 563 E. Tremont Ave. New York 57, N. Y. CYpress 9-5440-1

FOR SALE

1—Northwest 2½ cu. yd. Diesel Shovel, Crane and Dragline, with Murphy Diesel Engine.

1—P & H Electric Shovel, Model 1400.

1—Caterpillar Tractor with Bulldozer and Power Control Unit.

5—Euclid Model 27-FD Diesel Trucks, Rock Body, Rear Dump.

1—Euclid Model 49-FD Diesel Truck, Rock Body, Rear Dump.

1—Ingersoll-Rand Quarry Master Piston Drill, Air Operated.

6—Cleveland Wagon Drills.

2—Ingersoll-Rand Wagon Drills.

1—LeRoi 500 cu. ft. Air Compressor, Diesel Engine.

The above equipment located at Tahawus, New York.

WINSTON BROS. COMPANY

Tahawus, New York

or

WINSTON BROS. COMPANY

1470 Northwestern Bank Bldg.

Minneapolis 2, Minnesota

New Fast Efficient

"Ingersoll Rand" Jack Hammers

Model JH4

"Worthington" Pavement Breakers

Model 80W

"Clinton" 2 ton chain hoists

LOW PRICES

Satisfaction guaranteed

Write—Phone—Call

SHURTER LUMBER & PILING CO.

Samsonville, N. Y.

Phone Shokan 2647

FOR SALE

1—Euclid Loader Model BV5, Serial 5BV34 New May 1947—used on one job.

7—Terra Cobra Scrapers, 150-HP Cummins engines. These machines new 1946-1947. Less than one year work. Latest Improvements including cabs, 12-c.f. air compressors and 24-V generators, drive chains enclosed. All overhauled and appearance like new. Will sell in lot or separately.

All above subject to prior sale and F.O.B. St. Paul, Minn.

Terms can be arranged

Address

R. M. Knox—B. S. Crooks

424 Endicott Bldg. St. Paul, Minn.

RAILS-TIES

TRACK ACCESSORIES

1—Bucyrus-Erie Stripping Shovel, Model 54 B, Serial 63124. Buda-Lanova Engine. Used 2 months.

2—Hardsocg Horizontal Drills with Hydraulic Feed. One with 60 ft. Augur, the other with 100 ft. Augur. One new, the other in good condition.

2—Hardsocg Vertical Coal Drills, Type A7. Both with 3 and 6 ft. section Augurs. Excellent Condition.

1—Chicago Pneumatic Diamond Drill, Model CP 8, Serial 812. With 100 ft. drill rod and F-M Typhoon water pump. Like new.

PATTERSON CONSTRUCTION CO.

Tenth and Railroad St. Monongahela, Pa.

Telephone 920

BRAND NEW LIGHTWEIGHT

RUBBER BOOTS

Made of best quality Olive Green rubber, seams reinforced throughout, has foam rubber insoles, adjustable leg harness, hip high, come complete with belt loops. Indispensable for all construction jobs. This lightweight boot is also fine for the man who likes a little fishing off the job. You must be satisfied or your money refunded. Sizes 6 to 13

REG. $12.50 VALUE

$5.95

SHIP. CHG. 50c EXT.

1744 J. Jacob Shannon & Co.

J. JACOB SHANNON & CO.

214 NORTH 22nd ST., PHILA., 3, PA.

THE OLDEST EQUIPMENT HOUSE IN PHILADELPHIA

100,000 6x8 - 8' RAILROAD TIES

PRESSURE CREOSOTED—TOP QUALITY—FROM WELL MAINTAINED GRAVEL BALLAST TRACK

One of the finest offerings of used ties ever to reach open market. All late insertions—several thousand 1948. All Engineer inspected, priced below market and available for prompt shipment.

Ask for our LOW DELIVERED PRICES. If you are in a hurry, wire us "collect."

GILLIS AND COMPANY

Railroad Ties Since 1892

29 EAST MADISON ST. CHICAGO 2

Lorain Moto-Crane

Lorain TL-20 Moto-Crane on 6x4 carrier. Crane and clamshell equipment new late 1947. Rubber in very good condition. Available immediately.

EDWARD EHRBAR, INC.

29 Messerole Ave. Brooklyn 22, N. Y.

Tel. No. EVergreen 3-5000

ALL SHOP—REBUILT

Lorain 82 Diesel 2 cy shovel, unused
Lorain 79 Diesel 1½ cy shovel & crane
Lorain 30 gas ½ cy shovel, backhoe & crane
Caterpillar D-7 hydraulic bulldozer, 3T series
International TD-18 hydr. & Cable bulldozers, 1948

SALE - RENT - TRADE-IN

BENDIX MACHINERY CO., INC.

401 Broadway, New York 13 Tel: Canal 6-5693

RAILS - ANGLE BARS TIE PLATES

Write for Regular Bulletins of

CURRENT LISTINGS

Complete Range of Sizes Always Available

RAIL DIVISION

COMMERCIAL METALS *Company*

LATIMER AT CORINTH, P.O. BOX 1046, DALLAS

FOR SALE OR RENT

Link Belt Truck Crane

New 1947. T 90—Sectional Boom up to 122 ft—Back Hoe with High Gantry and Extra Counter Weight—Clam Shell and 3,000 LB. Vulcan Drop Hammer with Leads. Used about six months.

FS-7325, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

FOR SALE

2—Jaeger-Lakewood Model H Cement Finishers—$5,000.00 Each.

5—Model 34E Rex Dual Drum Pavers—$17,500.00 Each.

2—Jaeger Concrete Spreaders—$6,500.00 Each.

This equipment all new, 1942, in excellent condition. Prices F.O.B. Boise, Idaho

WESTERN EQUIPMENT COMPANY

P.O. BOX 1456 *BOISE, IDAHO*

SEARCHLIGHT SECTION

FOR SALE

1 160S Pumpcrete machine with 800 ft. 7" pipe
1 1¼ cu. yd. shovel front—362 Marion
1 6S Smith Concrete Mixer #471, practically new
3 HK500 cu. ft. I. R. Portable Compressors
2 315 cu. ft. I. R. Portable Compressors—Gas
2 Eimco, Model 21 Muckers, 30" and 36" gauge
2 12" Coppus Ventair Blowers
6 D-35 I. R. Drifters
1 Drill Carriage
2500 Ft. Track—30" gauge
3 7½ K. W. Generators
4 1 cu yd. Orange Peel Buckets
Pipe, cars, drill steel and other miscellaneous tunnel equipment

Nicholas DiMenna & Sons, Inc.
1525 Blondell Ave., New York 61, N. Y.
Tel. Talmadge 9-7070

FOR SALE

3—1000 c.y. Dump Scows located on Lake Erie.
1—100 HP Launch.
1—Clamshell Dredge 8-10 c.y.
2—Steel Barges.
located in New York Area.

FS-9048, Engineering News-Record
520 North Michigan Ave., Chicago 11, Ill.

FOR SALE

Must sacrifice because of illness, all equipment necessary for the application of pneumatically applied concrete, consisting of:
One Jet Crete Cement Gun and 200 ft. hose.
One 315 Blue Brute Worthington Diesel Compressor mounted on Dodge Truck Chassis.
One Dodge Dump Truck.
One CMC Concrete Mixer mounted on Truck Chassis.
One Diamond T. Service Truck.
Everything in first class condition, a big money maker, for a hustler.

Have enough work to keep this equipment in action until Nov. 1949.

ASKING PRICE $30,000

FS-9000, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

FOR SALE

ADNUN ASPHALT SPREADER
USED - GOOD CONDITION
Priced to sell quick.....$2,500.00
AVAILABLE IMMEDIATELY
EDWARD EHRBAR, INC.
29 Meserole Avenue Brooklyn, N. Y.
Evergreen 3-5000

FOR SALE

2 TRUCK CRANES
P&H Models 250—1939 with 80' Boom & 30' Jib. Mott Haven Mounting with 6-BQ Mack Motor. Excellent condition.
LEE CRANE SERVICE, INC.
33 Island St. Boston Mass.

HANSON DEALER OFFERS

Hanson model 31 crane capacity to 5 tons, one year old used little. An excellent buy. Guarantee 30 days.
Price with 30' boom $6250.00
All attachments available at cost.
GENERAL EQUIPMENT CO.
133-18 227 ST. LAURELTON, L. I., N. Y.

FOR SALE

1—¾ yard Strayer portable concrete mixing plant.
1—102 ton three compartment Hetzel concrete aggregate bins complete with scales.
1—90 foot boom with goose neck for Osgood Victor type shovel.
1—4" Hart horizontal drill.
1—Rex No. 105 Mixer.
1—Jaeger one bag mixer.
3—Buday 12" electric power saws with roller extension tables.

All of this equipment is located in Western Pennsylvania.

Mountaineer Engineering Company
Box 391 Coraopolis, Pa.

FOR SALE

TUNNEL EQUIPMENT
See ENR May 5 and May 19, 1949
PERINI MANEY WALSH & RUGO CONSTRUCTION COMPANIES
1156 Commonwealth Ave. West Newton 65, Mass.
PHONE BIGELOW 4-8330

SHOVEL FRONTS

Insley Model K, ½ yard
Bay City Model 30, ½ yard
Both attachments practically new. Priced to sell.
EARLE EQUIPMENT COMPANY
3648 So. Division Grand Rapids 8, Mich.
Phone 5-5824

FOR SALE

1—Model 6 Northwest
Dual Crowd Shovel Attachment
Consisting of a 25 ft. boom, 18 ft. dipper sticks—1½ yd. Manganese front, dipper complete with cables and lagging. Used 4 months.
C. R. MEYER & SONS COMPANY
50 State Street Oshkosh, Wisconsin
Telephone—Blackhawk 4400

FOR SALE

800 h.p. slip ring AC 600 R.P.M. motor complete with power controls, grids and master oil switch.
350 h.p. slip ring AC 650 R.P.M. motor.
Other motors 5 h.p. to 60 h.p.
3 Transformers, 13200-2300 Volts, 60 cycles, 250 K.V.A.
Above items are in first class condition
WALTER W. MAGEE CO.
1397 Laurel Ave., St. Paul 4, Minn.

PILING

We have on hand excess quantities of the following new structural steel, ready for immediate shipment at $110.00 per ton, F O B cars at Baltimore, Maryland.

Steel Sheet Piling, AP 3 x 36, 60 ft. lengths
Steel Sheet Piling, CP30 x 30.7, 60 ft. lengths
Steel Sheet Piling, CP31 x 30.7, 60 ft. lengths

Bearing Piles, BP 14 x 102, 80 ft. lengths
Bearing Piles, BP 14 x 102, 40 ft. lengths
Bearing Piles, BP 14 x 89.0, 80 ft. lengths
Bearing Piles, BP 12 x 89.0, 40 ft. lengths
Bearing Piles, BP 12 x 53, 60 ft. lengths
Bearing Piles, BP 12 x 53, 30 ft. lengths
Bearing Piles, BP 12 x 53, 20 ft. lengths

Baltimore Telephone:
Broadway 2800, Extension 2
F. N. Sands

For Sale or Rent

STEEL SHEET PILING
103 pcs. 20 ft. Inland 127—Okla.
114 pcs. 70 ft. Carn. M116—N. J.
Other lengths and sections at various locations.
MISSISSIPPI VALLEY EQUIPMENT CO.
509 Locust St. Chestnut 4474 St. Louis, Mo.

FOR SALE

2 D-8's 8R & 1H series w/dozers
2 D-7's, 4T & 7M series w/dozers
1 D-4, 2T series w/dozer
1 Caterpillar model #12 Grader
Truck Crane, Quickway mod. E
2 Diesel Rollers, Galion & Huber 10 ton
Machinery Trailer, 30 ton
3 International T-9 Swing Cranes
Tractor, TD-14 w/Hughes-Keenan Crane
Asphalt Distributor, 800 gal.
Cement Mixer, 2 bag, on rubber tires
2 TD-18's, 1 TD14 w/blades
Also other items.
All very clean, some new
For details and pictures:
Write Box 114 Miami Springs, Fla.
Phone Miami, 78-0243

FOR SALE

CATERPILLAR BULLDOZER
Model R5, Serial #4H 1142. Fair condition. Price $1750.00.
PHILIP SPENO
1283 COLUMBIA AVE. Plainfield, N. J.

U. S. ARMY SURPLUS

TARPAULINS
- Guaranteed Reconditioned
- Heavy Duty No. 6 Duck
- Heavy Construction
- Large Sizes
- Waterproof
- Flame Resistant

SEGALL MACHINERY CO.
700 W. West St., Balto. 30, Md. Sa. 6526 3673

FOR SALE

2—Model C-11 TOURNAPULLS New August 1948. Used less than 1000 hours.
SAGER CONST. CO.
5507 Pershing Ave., St. Louis, Mo.
Forest 5370

BARGAIN ON BULLDOZERS
Quick Sale—Excellent Condition
1 D-7 9G series with Hydraulic blade and Hyster towing winch.....$7,400.00
1 D-4 53T series with Hydraulic Trailbuilder blade and Hyster towing winch..$5,200.00
Phone or write:
WYOMING VALLEY NURSERY
WYOMING, PENNA.

HD-7 POWER TAKEOFF
ALLIS-CHALMERS PART #047642
For HD-7 Crawler Tractor. Brand New, War Surplus; w. forward, neutral, reverse, & shift bracket. Only $52.50 each F.O.B. Chicago area. Discount on lots of 4. Will ship rated items others send check. Each only **$52.50**
STAHLER DISTRIB'S—810 Mich., Evanston, Ill.

GANTRY CRANE

1 Colby electric Gantry—Model 200. Capacity 45 tons, 30 foot radius, 85 ft. boom. 6 motors 3-60-440 volt. Main hoist and auxiliary.
FREDERICK R. MILLER
2834 Delevan Drive Los Angeles 41, Calif.
Phone: Albany 8925

The following used wood barges are offered for sale, berthed in Baltimore, Maryland, Harbor:
One (1)— 84 ft x 36 ft.
One (1)—111 ft. x 33 ft.
One (1)— 92 ft. x 33 ft.
Baltimore Telephone:
Broadway 2800, Extension 2
F. N. Sands

FOR SALE

1—2 cy Blaw-Knox Clam Shell Bucket size 0707

WANTED

1—Shovel front attachment for 1¼ cy Osgood crane Victor Model
STATES IMPROVEMENT CO.
Tel: State 2-5654
30 N. LaSalle St. Chicago 2, Ill.

ADVERTISERS IN THIS ISSUE

Allis Chalmers Mfg. Co. ..... 2nd Cover
American Bitumuls Co. 1
American Hoist & Derrick Co. 21
American Mutual Liability Ins. Co. 34, 35
American Trucking Assns 56
Arabol Mfg. Co. 66
Armco Drainage & Metal Products, Inc. 4
Armstrong Bray & Co. 57

Bay City Shovels 66
Blaw-Knox Div. Blaw-Knox Co. 58
Blood Brothers Machine Co. 62
Boston Woven Hose & Rubber Co. 29
Bucyrus-Erie Co. 70

Ceco Steel Products Co. 40, 41
Cement Gun Co. 65
Chicago Bridge & Iron Co. 3

Dearborn Chemical Co. 36
Dobbins Mfg. Co. 70
Dow Chemical Co. 53
Dravo-Doyle Corp. 69

Ellicott Machine Corp. 58

Firestone Tire & Rubber Co. 51

Golden-Anderson Valve Specialty Co. 8
Gordon Smith Co. 32
Gunite Concrete & Construction Co. 62

Heltzel Steel Form & Iron Co. 31
Hines Lumber Co., Edward 71

Imperial Pencil Tracing Cloth 2
Ingalls Iron Wks. Co. 38
International Steel Co. 61

Keasbey & Mattison Co. 22
Koehring Co. 54, 55

LeTourneau, R. G. 46, 47

Mixermobile Mfrs. 48
Monsanto Chemical Co. 25
Moretrench Corp. 57

Oliver Corp. 26
Ozalid Div. of General Aniline & Film Corp. 44

Preformed Wire Rope Information Bureau 39

Raymond Concrete Pile Co. ..... 3rd Cover
Richmond Screw Anchor Co., Inc. 6
Roebling's Sons Co., John A. 43

Schield Bantam Co., Inc. 33
Sprague & Henwood, Inc. 62
Stancal Asphalt & Bitumuls Co. 1
Standard Steel Wks. 65

Templeton, Kenly & Co. 69
Timber Engineering Co. 66
Timken Roller Bearing Co. ..... 4th Cover

Yoemans Brothers Co. 45

Searchlight Section

(Classified Advertising) ..... *pgs.* 73, 79

ENGINEERING NEWS-RECORD

G. R. Ramel, Sales Manager — Howard Olsen, Business Manager

Sales Representatives—Fred G. Hudson, L. H. Hunt and H. L. Keeler, 520 N. Michigan Ave., *Chicago* 11; Ralph Dorland, 68 Post Street, *San Francisco* 4; J. L. Ballard and W. G. Payne, 330 W. 42nd St., *New York* 18; A. R. Cozenes, 17th and Sansome Sts., *Philadelphia* 3; E. E. Duff, Jr., Hanna Bldg., *Cleveland* 15; B. F. Horn, Penobscot Bldg., *Detroit* 26; W. E. Donnell, Continental Bldg., *St. Louis* 8; Charles McReynolds, 621 So. Hope St., *Los Angeles* 14; Ralph Maultsby, Rhodes-Haverty Bldg., *Atlanta* 3; J. H. Allen, Empire Bank Bldg., *Dallas* 1. Other sales offices 7-38-39 Oliver Bldg., *Pittsburgh*; 1427 Statler Bldg., *Boston* 16; National Press Bldg., *Washington*; Aldwych House, *London*, England.

REBUILT TRUCK CRANES
BAY CITY 20 tons cap. on ten wheel truck
LORAIN MOTO 15 ton cap. on ten wheel truck
LORAIN 30, 10 tons cap. on ten wheel truck
INSLEY "K" 7 tons cap. on six wheel truck
LORAIN 30 CRAWLER threeway combination
BENDIX MACHINERY CO., INC.
401 Broadway, New York 13 Tel: Canal 6-5693

1948 ALLIS-CHALMERS HD-5G FRONT END SHOVEL
With GM Diesel. Excellent condition.
FRANTZ EQUIPMENT COMPANY
50th & Wynnefield Ave., Philadelphia 31, Pa.
GReenwood 3-8600

2—**Bucyrus-Erie** model 22B ¾ cy. **power shovels** $14,000.00 each; 1—Model 304 **Koehring crane** with 40 foot boom $11,000.00. All three machines unused.
A. G. Sherwood Construction Co.
Independence, Kansas

FOR SALE OR RENT
1948 Michigan C-16 dragline and backhoe. Same as new . . $7800.00
1948 TD-14 Int. bulldozer Bucyrus-Erie Blade. Excellent . . . $6500.00
FS-8990, Engineering News Record
520 N. Michigan Ave., Chicago 11, Ill.

FOR SALE
1—Elec. Shovel, Marion Model 350; 8-10 c.y.
1—1600 HP, GM diesel
FS-9049, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

WAR SURPLUS EQUIPMENT
SENSATIONAL SAVINGS!
15 TON RATCHET LEVER JACKS
$15.75 Ea
Lots of 50 $17.50 Ea.
Lots of 6 $19.75 Singly
List Price About $72.00
JOYCE 21928 A
15 Ton Ratchet Lever Jack. Automatic Lowering Ratchet Jack. 15 Ton Capacity. Height closed 28". Rise 19". Wt. 94 Lbs. 60" Handle. Extra heavy base with foot forged to the rack bar, insuring maximum strength at this point. Jack handles easily because it is in perfect balance when lifted by convenient handles.

NEW WAR SURPLUS UTILITY TRAILERS
F.O.B. KINGSPORT, TENNESSEE
This trailer is excellent for mounting air compressors, welders, and light plants. Also a utility trailer which can be attached to a pick-up or passenger car for all sorts of light tools, equipment and material hauling. Capacity 2 ton. Four pneumatic Firestone tires, size 9.00x9. Timken bearing wheels, heavy steel frame. Originally designed for the army as a bomb trailer.
SPECIFICATIONS—57" from front to rear axle. 39½" width between wheels, 97" overall length, 42" overall width. Weight 465 lbs. Complete with tires: Firestone 6.00 9-4 Ply. Timken-bearing wheels. Capacity: Approximately 4000 lbs.
$79.50 Ea 3 or More $75.00 Ea
JOBBERS WHOLESALERS DISTRIBUTORS
ROSE BROTHERS CO.
1400 HARRISON AVE. CINCINNATI 14, OHIO
TERMS Net 10 days to rated consumers. Others please send check with order. All items F.O.B. Cincinnati, unless otherwise specified.

Caterpillar Diesel Engines
Model D-13,000 and D-8800
Complete - Very few hours
JULIUS HEBENSTREIT, INC.
56-15 58th St., Maspeth, L. I., N. Y.
Tel. Davenport 6-1461
Cable Address: Habenjul New York

WANTED

WANTED THE FOLLOWING UNITS
Equipment must be in Excellent Condition
2 or 2½ yd Shovel or Crane
Shovel front for P&H crane LC855
150—190 H.P. Bulldozer
Lorain ☰41 shovel front
☰112 Caterpillar Grader or equal
10 ton Buffalo Roller or equal
Sheepsfoot roller, 550☰ per square inch pressure
Low-bed trailer, 60 ton minimum
5 or 6 ton Trailer truck
Write P.O. Box 755, Langley Field, Virginia

WANTED
PORTAL GANTRY
Electric or Diesel
To handle 20 tons at 40 feet
VICTOR OOLITIC STONE CO.
Bloomington, Indiana

WANTED
FAIRBANKS-MORSE
Ten Cylinder 8½ x 10 O. P. Diesel Engine, Model 38D.
P. O. Box #2057 Ventnor, N. J.

WANTED
Backhoe Attachment for Osgood, Model 200. Concrete Finishing Machines and Longitudinal Finisher—late model. Advise condition, location, and price.
FRANK PECORA CONSTRUCTION Co., Inc.
204 E. Preston St., Baltimore, Md.

WANTED
Double or Triple Drum Hoist
Electric, suitable for Saureman 2-yd drag bucket. Send full details and photo.
LONG CONSTRUCTION CO.
Box 1291 Billings, Montana

New "SEARCHLIGHT" Advertisements
received by June 7th will appear in June 16th issue, subject to space limitations.
Classified Advertising Division
ENGINEERING NEWS-RECORD
330 W. 42nd St., New York 18, N. Y.

CONSTRUCTION BUSINESS

Construction budget cut by major electric utility

A $6,500,000 cutback in the 1949 construction budget of the Consumer Power Co., Jackson, Mich., was announced recently by the company president in a letter to stockholders. He said failure to get relief on requests for $11,600,000 annual gas and electric rate increases, was the cause of the change in plans. The company had expected to spend a total of $46,000,000 for new construction in 1949.

Consumers Power is the first electric utility of importance to announce a cut in its proposed construction program. Currently the industry is planning to spend $5,500 million on expansion over the 1949-51 period.

"De-escalator clause" insures materials buyers

One of New York's biggest apartment house builders says that for the first time since the war, almost all his suppliers offer him contracts with "de-escalator clauses" protecting him against price drops before delivery.

Dealers in slow moving construction items, hardware, and non-ferrous metals, reportedly are now accepting orders "at the price in effect at the time of delivery." This means that buyers who have been holding out to make the most of sagging prices, can place their orders with assurance that they will benefit from tomorrow's price cut. On the wholesaler's side, this plan stimulates current buying in a hesitant market, and also enables him to establish priorities in case of a sudden rush of orders.

This market situation indicates: (1) that wholesalers are satisfied prices of durable goods must be adjusted to strengthen demand, and (2) they feel losses due to price cuts will be minimized by the immediate firming up of future orders, even with a price guarantee.

Rental housing bows to high building costs

Insurance companies that have completed or made commitments on rental housing for 47,000 families at a cost of $475 million are putting off further undertakings until "there is a better balance between building costs and the long term outlook for rental income."

"While the interest in rental housing on the part of the insurance companies is still keen, few are giving consideration to additional specific projects currently—due largely to construction costs." This was the outlook expressed by the Institute of Life Insurance last week.

Forty-one projects already completed by these companies, represent an investment of $275 million and take care of 34,500 families. Additional housing for about 12,000 families is in progress at a cost of about $185 million while projects now in the planning stage will involve a further outlay of $15,000,000.

Labor briefs . . .

This week saw several significant developments on the construction labor front: In Pittsburgh, 5,000 carpenters working on commercial and industrial projects agreed to forego the 25-cent wage increase they had demanded. Officials of the AFL carpenter's union signed a contract with the Master Builder's Association of Allegheny County calling for continuance of the existing $2.50 hourly rate. The association is also carrying on negotiations with 17 other building trades, which have demanded a 25-cent raise in pay.

Philadelphia carpenters, 7,000 strong, were granted a 15-cent pay boost at the end of a four day strike. Those on home construction have agreed to $2.34, but this may be renegotiated. Bricklayers are up to $3.00 an hour from $2.75; steamfitters are up to $2.75 from $2.50; and new contracts covering heavy construction laborers are being negotiated at $1.55.

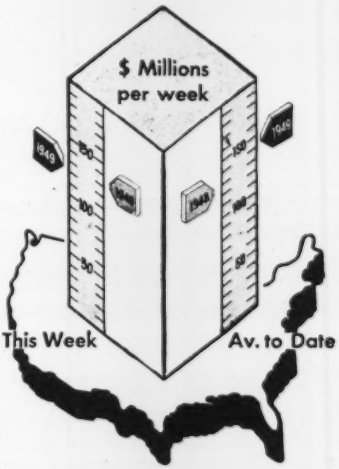
In Boston, carpenter's wages are up 15 cents to $2.25, hoisting engineers are up 15 cents to $2.60, and electrical workers gained 20 cents to $2.50, as last year's contracts expired and new agreements were reached.

Other electrical workers show May wage gains as follows: Cleveland up 15 cents to $2.52 hourly, Pittsburgh up 20 cents to $2.57 hourly, Denver up 16 cents to $2.41 per hour, and Detroit up 20 cents to $2.60 hourly. Philadelphia electricians are earning $2.75, up 37 cents.

On the other side of the picture, there were labor developments in Washington which may affect southern lumber prices in the future. Small saw-mill operators were "written out" of the administration's minimum wage law, in an attempt to gain the support of southern congressmen. Wages make up a major part of southern pine production costs.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	June '49	473.78	227.75
Building Cost	June '49	349.28	188.81
Volume	May '49	275	121



Activity This Week

As reported to ENR (in millions of dollars)

Amount of Contracts let

	Week of June 2 1949	Cumulative 1949 (22 wks.)	1948 (23 wks.)	% chge av.wk.
Federal	$10.1	$444.1	$475.4	−2
State & Mun.	66.2	1,220.3	1,011.9	+26
Total Public	$76.3	$1,664.4	$1,487.3	+17
Total Private	46.8	1,522.5	1,384.8	+15
U. S. Total	$123.1	$3,186.9	$2,872.1	+16

Contracts by type of work

	This Week	Cumulative 1949 (22 wks.)	1948 (23 wks.)	% chge av.wk.
Waterworks	$12.1	$77.2	$93.5	−14
Sewerage	5.9	103.8	91.4	+19
Bridges	8.4	147.4	116.5	+32
Highways	21.8	315.0	405.0	−19
Earthwork, Waterways	4.6	257.7	246.9	+9
Buildings, Public	20.4	656.8	443.0	+55
Industrial	8.1	395.9*	456.6	−9
Commercial	29.0	983.2	824.1	+25
Unclassified	12.8	249.9	195.0	+34

* Revised

NOTE: Minimum size projects included are: Waterworks and waterway projects, $25,000; other public works, $50,000; industrial buildings, $68,000; other buildings, $250,000.

New capital for construction

	Cumulative 1949 (21 wks.)*	1948 (22 wks.)	% chge av.wk.
NON-FEDERAL	$2,207.4	$1,548.5	+49
Corporate Securities	1,087.7	818.0	+34
State and Municipal	1,119.7	709.5	+67
Federal	....	....	....
Total Capital	$2,207.4	$1,548.5	+49

* Week ending May 26

Raymond

Pattern FOR Permanence

52 YEARS FOUNDED 1897 OF PROGRESS

7 mile conveyor keeps rolling on 60,000 TIMKEN® bearings!

CONSTRUCTED in 21 sections, this conveyor delivers crushed rock from the surge pile seven miles away to Bull Shoals, Arkansas where the huge Bull Shoals dam is under construction. The conveyor belts are carried on 10,000 Robins troughing idlers—equipped with 60,000 Timken® bearings.

Robins idlers rely on Timken bearings because they give trouble-free performance and longer life. They turn smoothly and freely under the heaviest loads. Conveyor belt wear is reduced because there's no drag.

Because Timken tapered roller bearings permit tighter closures which retain lubricants and keep out dust and water, maintenance time is reduced to a minimum. Timken bearings carry radial and thrust loads in any combination, and the line of contact between rolls and races provides maximum load capacity. Timken bearings are made of the finest steel ever developed for tapered roller bearings . . . Timken fine alloy steel. Due to their true rolling motion, perfect roll alignment, and smooth surface finish, friction is practically eliminated.

Whether you use or make conveyor belt idlers—or any other kind of machinery—make sure the trademark "Timken" is on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.

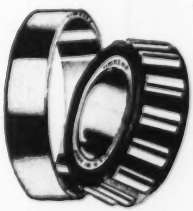
NEW TIMKEN BEARING CUTS RUN-OUT IN HALF!

Until now, the Timken "Zero" bearing has been the last word in bearing accuracy. Now Timken offers industry the "Double-Zero" bearing—*twice as accurate* as the "Zero"! Maximum run-out of the new "Double-Zero" bearing is only 75 millionths of an inch—*half* the 150 millionths run-out of the "Zero" bearing.

What an opportunity for manufacturers of machines where extreme accuracy is essential! Available in standard single row types, up to 10" O.D. Write for further information.

TIMKEN

TAPERED ROLLER BEARINGS



NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION